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# GREENLAND

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THE COMMISSION FOR  
THE DIRECTION OF THE GEOLOGICAL AND  
GEOGRAPHICAL INVESTIGATIONS  
IN GREENLAND



## VOLUME II

THE PAST AND PRESENT POPULATION  
OF GREENLAND

COPENHAGEN

C. A. REITZEL  
PUBLISHER

LONDON

HUMPHREY MILFORD  
OXFORD UNIVERSITY PRESS

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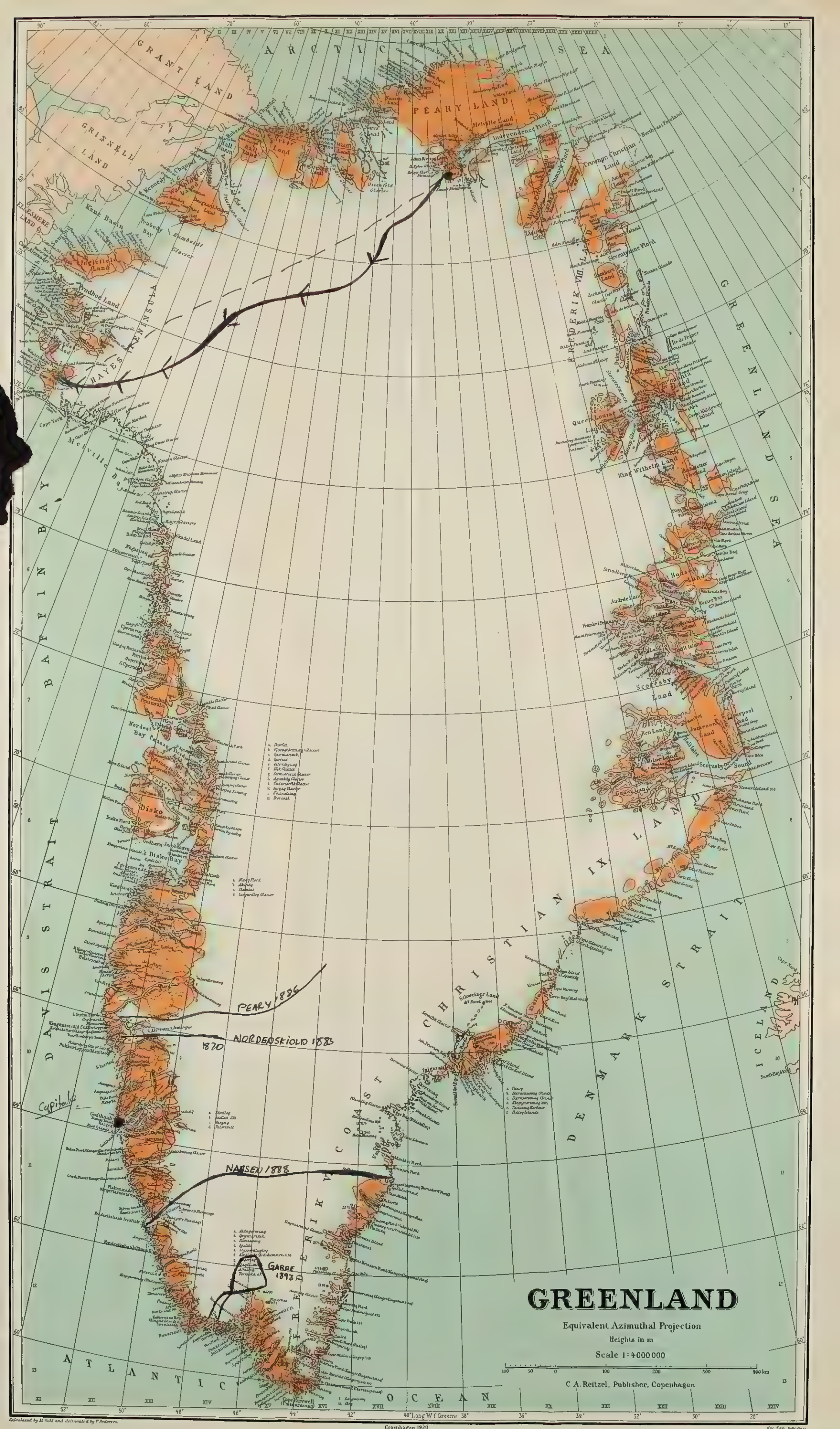
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# THE GREENLANDERS OF THE PRESENT DAY

BY

KAJ BIRKET-SMITH M. Sc.

When attempting to give a sketch of the Greenlanders at the present time, in such a manner as to combine the details into a rational whole, rather than to produce a series of isolated snapshots, we must first of all try to realize the development which has resulted in conditions as they are to-day. The present of the Greenlanders must be viewed against the background of their past as it has developed through centuries, not merely in Greenland itself, but also in a remote and dim past, before they immigrated into this country.

A great number of historical, psychological, and geographical factors have helped to bring about this development. To elucidate the last, even in outline, is, however, not our task. The archæology of the Greenlanders will be dealt with elsewhere, and the psychological factor more particularly belongs to a description of their intellectual culture. In other words, for us the historical element is not a final object, but a necessary means to an end. In the same manner as the topography of the country must be described with geology as a background, but without other geological details than those which lend perspective to the picture of the present time, we must also, in this case, try to describe the Greenlanders of our own time in such a manner as to make their life and culture stand out as a stage in their development, but freed from such elements as have left no impression upon the present state of affairs.

Chief importance will be attached to the human geography of the Greenlanders. But first of all, let us realize what is the meaning of this. It is certainly true that man should not be forgotten in geography, says the distinguished geographer Jean Brunhes, but human geography is, in the first place, geography and not psychology, sociology, or history. Is it not our duty, he asks, to divest ourselves to the greatest possible extent of all psychological, ethnological or social conceptions and, instead of that, to introduce a positive observation of the results of human activity with the least possible intermixture of the subjective, human element? Thus,

human geography is limited to the geography of the material culture and even only to part of the latter, that is, the part dealing with dwellings, occupations and communication. It is undoubtedly in these very domains that geographical environment acts in its full intensity, and thus in this treatise such forms of human activity will principally be dealt with.

Still, there are other facts which cannot be left out of consideration. It is a primitive people we are dealing with. In his famous *Anthropogeographie* Ratzel challenges the view that primitive peoples are more dependent upon environment than more civilized nations. He maintains, on the contrary, that increasing culture means a more intimate connection with the soil, a more intensive exploitation of its products. Let this be as it may! But no one can deny that primitive culture with its poverty of resources, not least as regards communication, is far more limited to the possibilities at hand than that civilization which extends from the North Pole to the Equator, obtaining rubber from the forests of Brazil and mutton from New Zealand.

This being the case, there is reason to go beyond a treatment merely of the above-mentioned subjects. The life of the Greenlanders is a silent fight against cold, against starvation, indeed, against space itself—the immense wastes of the Arctic. And from this angle, against a historical background, but, before all, with our attention constantly directed towards geographical influence and adaptation, we will regard their existence. First, we will explain the possibilities of the country itself as far as the Greenlanders are concerned, and their qualifications for exploiting these conditions, according as they have been brought about by immigration and cultural influences from without; and this leads to a description of the distribution of the human race within the country. A chapter on the natural history of the Greenlanders—with less of geography than the other chapters, but indispensable to the whole—shows their physical relationship with other peoples. In their struggle against cold the dwelling is the central point, but, on the other hand, we cannot omit to mention their apparel, which both as regards material and shape shows adaptation to environment. The chapters on economic life and communication are a matter of course, and from a description of the technology of the Greenlanders it will appear that, also in this respect, the geographical influence makes itself felt in materials and methods. Finally, the social conditions, with material culture as a connecting link, are not merely the product of historical and psychological elements but, in an indirect way, fully as much a result of the nature which has left its impress upon the fundamental, material factors. That geographical influence can also be traced in the intellectual culture is a fact which no one can help realizing, but from our point of view intellectual culture is of secondary importance and does not come within the scope of this work.



## DISTRIBUTION OF THE ESKIMOS IN GREENLAND.

*CONDITIONS OF HUMAN LIFE.*

**Situation and Accessibility.** At the beginning of the long history of mankind America was not the far West, but the extreme East, and the Atlantic Ocean the great gulf fixed between the countries. From the viewpoint of human geography America is, in several respects, a kind of peninsula on Asia, and Greenland, in its turn, a kind of peninsula on the remaining part of America, attached to the Arctic archipelago by means of Smith Sound and the northern channels. Thus Greenland was predestined to receive its population proper from America, a population, however, which not only by the nature of the ice-bound Arctic, but also by the isolated position of the country, would be limited to a primitive culture. For its home is at the extreme edge of the oecumene: on one hand facing the immense Atlantic, on the other the ice-blocked Polar Basin, and few possibilities offer themselves of a fruitful communication with other peoples.

But this is not all. Nature not only circumscribes the growth of culture in those regions; she also fixes a minimum except which the country is inaccessible. Only the culture capable of liberating itself from the forests and of conquering the cold and darkness of the Arctic winter could find its way into Greenland. And this condition was fulfilled by the Eskimos, with their ice-hunting of sea mammals and their blubber lamp.

However, Greenland not only occupies a peripheric position in the oecumene viewed as a whole; the same fact applies to its position within the Eskimo world, the cultural climax of which is at the Bering Sea. In relation to this region the position of Greenland is in the opposite corner of the Eskimo area, being difficult of access even for the Eskimos, because its only channel of approach, the regions round Smith Sound, is hidden behind the uninhabited waste of Ellesmere Island and North Devon. It is true that owing to special historical facts the lowest form of Eskimo culture is not to be found in Greenland, but, nevertheless, it is in certain respects old-fashioned even from an Eskimo point of view. On the other hand, Greenland has the advantage of turning its most favoured side, the west coast, towards the remainder of the Eskimo world; but also to this access is only obtained by passing the extensive glaciers of Melville Bay.

Barely 450 km from the east coast of Greenland, Iceland emerges from the Atlantic; then follow the Faroes and, finally, Scandinavia. These are the pillars of the bridge which in the first instance carried the nations of Europe across the ocean, and thus we arrive at another point of main importance regarding the position of Greenland in the inhabited world, for at the same time that this immense island lies isolated and hidden away from cultural impulses, its very isolation shows an approach, indeed, an approach to Europe itself. It withdraws from one place only in order to

extend its hand in another direction. It is a well-known fact that at one time, during the expansion of the Viking period, this position led to the Norsemen securing a foothold on the coasts of Greenland, and there, for the first time, one of the nations of Europe encountered one of the peoples of the New World. For the Eskimos this encounter was practically without any cultural importance, and, further, the Norse settlements at that stage of European civilization were too remote to be lasting. However, if at the present time the United States is the most Europeanized part of the New World, Greenland, on the strength of its situation as well as its nature and history, is certainly the most European.

In proportion to the conquering of the ocean by navigation, Greenland seeks its cultural impulses less and less from the west, although the Polar Eskimos, as late as about 1864, have been influenced from this quarter. Nor is it any longer by the narrow sledge route across Smith Sound, but from the open sea that the waves of culture bear down upon Greenland. As early as the time of the whalers and, further, during the colonial period, sailing conditions have determined the cultural connection. From the settlements the wave passes to outposts and dwelling places, but at the same time a local centre of Danish-Greenlandic culture has been created in the easily accessible, central part of the west coast, this culture culminating in the Godthaab seminary. From there influences pass north and south and, rounding Cape Farewell, extend along the east coast. At the two extreme points, the Thule and Angmagssalik Districts, the influence is naturally weakest, and the local characteristics still have the upper hand over the new, imported elements. In a less pronounced degree this repeats itself on the west coast where the districts which are most difficult of access, that is Upernivik towards the north and Julianehaab towards the south, proportionally have retained most of the original impress, but, besides, there is a third primitive region, the southern Egedesminde District where intricate and highly branched fiords, uncertain winter ice and an abundance of wild reindeer, which in summer tempt the inhabitants as far as the margin of the inland ice, each in their way contribute towards keeping it aloof from European influences.

A peculiar position is occupied by the Thule District, because for a time it was entirely outside this common current, the actual source of which is Denmark. Scotch whalers and American expeditions, first of all those of Peary, had brought it under the influence of the Anglo-Saxon world. For Denmark the greatest feat of the so-called Literary Greenland Expedition is that its sledge journeys across Melville Bay made the Polar Eskimos once more direct their attention towards the south, thus taking up the threads of the broken communication with their kinsmen in those parts. For a long time Danish-Greenlandic culture has been in the ascendant in the Thule District, and the predilection of the Polar Eskimos for tea, as contrasted

with the West Greenlanders' preference for coffee, is fast becoming the only reminder of Anglo-Saxon habits.

**Possibilities of Culture.** The manner in which Greenland lends itself to immigration and cultural influence is a thing apart from the conditions offered by the country to those who have made it their home. It is a striking fact that Alaska and Greenland—which have about the same number of Eskimo inhabitants—between them hold five times as many Eskimos as the whole of the remaining Eskimo area. Consequently, it is evident that the conditions offered by Greenland in its entirety are not unfavourable to the progress of this people, even making due allowance for the fact that the sparse population of the British possessions is not exclusively due to unfavourable natural conditions.

The decisive factors, as far as the Eskimos are concerned, are the conditions for the hunting of sea mammals; only in one or two cases, outside Greenland and under very exceptional conditions, have they based their existence upon the hunting of reindeer. There is no doubt that the open waters of Greenland, which permit of a highly developed kayak prowess with seal hunting and, to a certain extent, salt water fishery as a means of subsistence, contributes largely towards facilitating habitation. The west coast, which is most favourably placed in this respect, also accommodates by far the greater part of the population, and in the regions where hunting by means of kayaks culminates, *viz.* south of Disko Bay, there is very nearly twice the number of inhabitants as compared with those parts where the winter ice limits its scope.

Thus the Greenlanders came to specialize in kayak hunting, which on the southern west coast reaches its climax. In those parts it is, as particularly emphasized by Steensby, the foundation of a special, sub-arctic phase of Eskimo culture, forming a contrast to the common Arctic form on the northern west coast. Like all specializing, this development, however, has also involved losses, and the pronouncedly Arctic cultural elements which did not thrive very well in the milder sub-arctic surroundings and which were, further, made superfluous by specializing, have gradually been entirely or partly lost. The dog sledge, for instance, is not found farther south than Holsteinsborg. On the other hand, there are some of the best kayakers on the small groups of islands at the mouth of Disko Bay, and also at Angmagssalik dog sledging occurs together with a unique skill in kayaking. Thus there is no sharp line anywhere, but only a gradual transition between the Arctic and sub-arctic modes of living.

Diametrically opposed to the kayak hunting of the sub-arctic phase and a step further than the strictly Arctic phase, is the pronouncedly high-arctic culture, which almost entirely centres round ice hunting. It is found among the Polar Eskimos in the Thule District, who until about half a century ago had entirely abandoned kayak hunting—to make up, as it



were, for the disappearance of the sledge on the southern west coast. Whereas in southern Alaska there is an analogy to the sub-arctic culture of Greenland, the high-arctic phase is entirely isolated. The Polar Eskimos are the most northerly tribe of the earth, and the only one which at the present time lives under extreme, Arctic conditions.

Each of these cultural phases—sub-arctic, Arctic and high-arctic—has its special requirements, and the problem of the cultural possibilities of Greenland must, consequently, be solved under three heads. The sub-arctic area proper corresponds very nearly to the west coast between the Arctic Circle and Cape Farewell, where the winter ice never forms for long periods at a time. North of this part, the area as far as Disko Bay forms a transition to the Arctic phase, and a similar transitional region is King Frederik VI Coast and the tract round Angmagssalik. On the west coast south of Disko Bay we find by far the majority of the population of Greenland, and along the greater part of this coast the kayak, with short interruptions, can be used all the year round. When, besides favourable conditions for kayak hunting generally, there is a special wealth of seals, the cultural possibilities reach their climax, as was originally the case in Julianehaab Bay, to which great quantities of bladdernose were carried by the ice-pack from the east coast. With the exception of one or two of the most southerly fiords, Frederik VI Coast is rather unfavourably placed from the point of view of sub-arctic culture. An overwhelming quantity of drift ice sometimes makes it difficult to approach the seals, and dangerous promontories and calving glaciers put obstacles in the way of communication. The great rapids at the coast have here, as also at Angmagssalik, supplied the population with their principal means of subsistence.

The Arctic phase requires, in winter, a lasting and smooth ice-floe, on which the hunter can look for the breathing holes of the seals. Favourable conditions occur along the northern part of the west coast, where the districts round Disko and Nordost Bays are old hunting centres for the population. In the Upernivik District, still farther north, numerous rapids give hunting conditions rather a special character, and Melville Bay offers excellent possibilities for Arctic as well as high-arctic culture. But this does not exhaust its chances, for when we have passed the very inhospitable Blosseville Coast on the east coast, the wide tracts round Scoresby Sound, King Oscar Fiord and Franz Joseph Fiord open out before us, regions which apparently meet all the requirements of a primitive population with an Arctic mode of life. From the house ruins it appears that regions still farther north have been regularly inhabited.

A necessary condition for the existence of a high-arctic culture is that the ice-floe remains practically all the year round, so that it may be possible to dispense entirely with the kayak; but at the same time there must naturally be another occupation to which the Eskimos may have recourse



Fig. 1. Map of inhabited and uninhabited regions in Greenland. (Birket-Smith).  
 Thick lines indicate a regularly inhabited coast, crosses the most important sites of ruins outside it.

Chr. J. Carl. Kopenhagen.

when the hunting of sea mammals fails. This is the case in the Thule District. Along the north coast of Greenland, from Humboldt Glacier and farther east, the sea is never entirely free from ice, but is covered by so-called paleocrystic ice or, as far as the fiords are concerned, with permanent *sikússaq* ice, which is very unfavourable to sea mammals. It is possible that an Eskimo population within these regions, to a very large extent, would have to depend upon the hunting of musk-oxen, but then conditions lend themselves very well to this in the great valleys between St. George Fiord and Wandel Valley inside J. P. Koch Fiord. The latter valley, in its turn, connects the north coast with Independence Fiord and the east coast, making a natural highway for migrating Eskimos. On the other hand, it is doubtful whether even this hardy and frugal-minded race is able to exist along the north coast of Peary Land, where steep mountains covered with ice and destitute of hunting possibilities drop down to the eternally ice-bound ocean.

#### INHABITED REGIONS AND DESERTED COASTS.

**Inglefield, Washington and Hall Land**, or, in other words, the regions to the north of Etah (Îta) and bordering the channels which open into the Arctic Sea, are the parts of Greenland which come closest to the outer world, and so it may be fitting to make these tracts the starting point for a short review of the Eskimo occupation of the country. With a view to establishing the fact of former habitation this area has been investigated by the Second Thule Expedition and the Bicentenary Expedition.

On Inglefield Land, between Etah and Humboldt Glacier, nine old dwelling places were located at Rensselaer Harbour, Marshall Bay and Advance Bay. In the neighbourhood of Marshall Bay there are no less than sixty house ruins, and sometimes Eskimos, even now, winter on this coast. North of Humboldt Glacier only two dwelling places have been found with ruins of winter houses, *viz.* at Cape Clay and Cape Webster. The latter place has been a dwelling place of some size, having five large winter houses, the most northerly ruins of houses known upon the west coast of Greenland, and in the vicinity of those were found seven tent rings, seventeen meat caches and one grave. Stone traps, meat caches, and other remains occur in several places along this coast. One of the most interesting finds was made by Lauge Koch in Morris Bay, where he discovered the remains of a kayak and hunting implements of a type quite different from those in use among the Polar Eskimos. The most northerly traces of Eskimos in this part of the coast were found by Hall's expedition at Polaris Bay, where there are seven tent rings and a fire place.

**The Central Part of the Thule District**, that is the coast between Etah and Cape York, is inhabited by the most northerly people of the earth. William Baffin, who in 1616 discovered Smith Sound, did not encounter



these Eskimos, but as he did not go ashore, this circumstance does not necessarily imply that the coast was uninhabited in those days.

The West Greenlanders knew from of old that a tribe lived there far towards the north, and Hans Egede as well as his son Poul Egede seem to have heard of them. However, it was not until 1818 that John Ross discovered the inhabitants of this district. He called them "Arctic Highlanders" and gave a vivid description of his encounter with the tribe. It is very curious, not least because of its naïvety, which is indeed more characteristic of the view of primitive races prevailing in those days than of the latter themselves. At a later period it was proposed to call them Smith Sound Eskimos. The name of Polar Eskimos was given them in 1903 by the Literary Greenland Expedition and is now the current one in Danish literature.

The Polar Eskimos only form quite a small tribe, but their hunting grounds cover immense areas, from Humboldt Glacier and even more northerly regions to Cape Holm in Melville Bay. For many years they also crossed Smith Sound and Ellesmere Island in order to hunt musk-oxen on Heiberg Land or to visit the coast of Jones Sound, which offers good facilities for bear hunting, but this has now been stopped by the prohibition issued by the Canadian Government. The great hunting expeditions, however, pertained to a limited period, and now again most winter dwelling places are circumscribed by narrower boundaries. At the beginning of the century they lay scattered between Etah and Cape York, and the points round which habitation centred were Inglefield Gulf and Wolstenholme Fiord. At the present time it may happen that a courageous hunter settles for the winter between Etah and Humboldt Glacier; but since the reindeer have been greatly decimated in those parts, it is only the bear which attracts hunters, and as there is a lack of good material for house-building, it is not probable that these dwelling places will be used very frequently. Nevertheless, Marshall Bay was inhabited in 1913 and Rensselaer Harbour in 1917. Since communication has been reopened with West Greenland by the Literary Expedition, the Polar Eskimos are constantly drawn south by the rich bear hunting in Melville Bay. The most southerly locality where they are now wont to have a winter dwelling place is Tugtuligssuaq, near Cape Seddon.

They are in the habit of dividing their dwelling places into four groups, being called *Avangnardlit*, viz. the northerners (Etah and Anoritôq); *Orqordlit*, viz. the leeward people (Inglefield Gulf); *Akúnármiut*, viz. the middle people (Wolstenholme Fiord), and, finally, *Nigerdlit*, viz. the south-westerners (Cape York and Melville Bay). These names, however, must by no means be regarded as tribal names, for the same family lives now in the one, now in the other group.

Numerous ruins in the district testify to its having been inhabited through long periods. The Second Thule Expedition located the position of forty-two old dwelling places between Etah and Cape York.

**Melville Bay** was, evidently, densely populated at one time, before communication ceased between the Polar Eskimos and the West Greenlanders. Here Ryder and, some years later, the Literary Expedition found several old dwelling places. Since the Second Thule Expedition at least twenty-three sites of ruins have become known between Cape York and Cape Shackleton. A principal dwelling place was Tugtutigssuaq at Cape Seddon. In a small inlet in this place, which has also been frequently inhabited by Polar Eskimos since 1905, there are no less than three groups of houses with about fifty ruins in all.

**West Greenland** is frequently supposed to have been uninhabited until the period of the old Norsemen. This is, however, undoubtedly wrong. On the contrary, Erik the Red found traces of human beings along the coast of Greenland. This is recorded in Are Frode's *Íslendingabók*, written in the first half of the 12th century. In his narrative of Erik the Red's discovery of Greenland in 985 or 986 he says: "They there found, both towards east and west, traces of human dwellings as well as fragments of small boats made of skin and such instruments of stone which made it clear that the same kind of people had lived there who had peopled Vinland and whom the Greenlanders [*i. e.* the Norseman living in Greenland] called Skrälings".<sup>1</sup>

From this record we may safely conclude that the immigration of the Eskimos into Greenland took place before 985. I suppose we are justified in coming to another conclusion, *viz.* that the Norsemen had not then, or at any rate only quite a short time previously, met them in Greenland when Are wrote his narrative. Otherwise, he would hardly have compared their relics to those of the Greenland Skrälings. Fridtjof Nansen maintains, it is true, that Are already knew of the Greenland Eskimos. His explanation seems somewhat far fetched, but the chief point, *viz.* the immigration of the Eskimos into Greenland before the Norsemen, being an established fact, it is, for that matter, a question of secondary importance whether the two peoples discovered each other a century sooner or later.

At any rate, the Norsemen made the acquaintance of the Eskimos at the latest during the 12th century, for about a hundred years after Are, the author of *Historia Norvegiæ*, wrote about the Greenland "Skrælings:" "On the other side, towards the north of the Greenlanders [*i. e.* the Norsemen] hunters have found some very small people whom they call Skrälings, and who when wounded alive by weapons die without loss of blood, but whose blood, when they are dead, will not cease flowing; but iron they lack entirely and use walrus tusks for arrow heads and pointed stones for knives."

There is curious evidence, of quite a different kind, of the connection of

<sup>1</sup> Though I do not intend to encumber this treatise with notes, this account is so important that it should be quoted in the original: "Þeir fundu þar mana vister bæpi austr oc vestr a landi oc kæiplabrot oc steinsmipi, þat es af því ma scilia, at þar hafpi þessonar þiop farip es Vinland hefir bygt oc Grænlandingar calla Screlinga."

the Norsemen with the Eskimos during the Middle Ages. In Bergen, the starting point for shipping to Greenland, a small ivory figure of a walrus has been found in an excavated house-site, and this figure is undoubtedly of Eskimo workmanship. As far as can be seen, it was found far deeper down than "a burnt layer beneath the remains from the fire in 1413", and so it possibly dates from the 12th or 13th century.

Since then the Norsemen have frequently met the "Skrælings." From medieval sources it is known that the Norsemen saw Eskimo dwelling places during their summer journeys farther north along the coast of Greenland. In 1266 "men came from Nordrsetur, who had gone farther north than had been heard of before. They saw no dwelling places of Skrælings except in Króksfjardarheidi . . ." In the following year a ship was sent out to the last mentioned place, which very likely is the region round Disko Bay or, rather, Egedesminde, and in the course of this expedition Eskimo dwelling places were found farther north; perhaps the expedition even penetrated as far as Melville Bay.

The Icelandic sagas, however, are curiously reticent as regards the Eskimos. According to Fridtjof Nansen this by no means shows lack of knowledge of them; it rather means that their presence was an everyday occurrence and as such should first and foremost be avoided by a narrator of sagas; furthermore, the Skrælings were heathens, versed in witchcraft, not to say supernatural beings, with whom those who were members of the holy Catholic Church could not hold converse. Even in the famous *King's Mirror* (about 1250) which contains a wealth of information about Greenland, no mention whatsoever is made of the Eskimos, and apart from the above-mentioned sources it is not until the dawn of the European Renaissance that writers such as the Danish cartographer Claudius Clavus, Olaus Magnus, and a few others, begin to take an interest in this strange people and state the oldest, though rather confused ethnographical facts about them.

The complete and even now obscure tragedy of the destruction of the Norse settlements is described elsewhere. Here only a few events will be mentioned which are of interest in connection with the advance of the Eskimos.

It is now generally accepted that, about the middle of the 14th century, the most northerly and smallest of the two settlements, the Vestribyggð, situated in the present Godthaab District, was destroyed by the Eskimos, who penetrated from the north. Ivar Baardssön who about 1341—68 was a steward of the Bishop's See at Gardar, gives the following account of this event: "Now the Skrælings have the whole Western Settlement; there are horses, goats, cattle and sheep, all wild, and no people, either Christian or Heathen." It must, however, be borne in mind, as pointed out by Nansen, that the account of wild cattle in Greenland, presuming that the climate



was as at the present day, does not sound very probable and that the account of Ivar, which only reaches us at second or third hand, also contains several other improbabilities.

In an Icelandic annal from 1379 the following passage occurs: "The Skraelings harried the Greenlanders and killed of them eighteen men and took two boys and made slaves of them." If the western settlement was already destroyed at the time of Ivar Baardssön, this passage must refer to a fight at the eastern settlement, unless it took place during one of the expeditions to Nordrsetur. We know now from the excavations of Poul Nörlund at Ikigait, that the Norsemen were in communication with Europe as late as the 15th century, but the final destruction of the settlements is shrouded in mystery.

Here, however, some information may be obtained from the Eskimo traditions, and there is no reason to doubt their reliability, although they were only written down in the 19th century. It is not until the last generation that Hans Christian Andersen, Grimm and tales from other European sources have begun to obscure the Eskimo traditions in West Greenland. The different versions agree in all essentials. The Eskimos came from the south, attacked the Norsemen whose leaders were Ûngortoq and Ûlavik (Yngvar and Olaf?) and burnt the house where they had taken refuge. As to the scene of the event the tales can be divided into two groups, one of which places it at Ameralik Fiord (western settlement), the other at Qaqortoq near Julianehaab, the locality of the best preserved church ruin from the time of the Norsemen. Through careful researches Will. Thalbitzer has arrived at the conclusion that the events took place in the south, but have subsequently been localized at Ameralik. The fact remains that the Eskimos who made this attack came from the south, *viz.* round Cape Farewell. As will be shown later on, the Eskimo immigration presumably first took place along the west coast and from there to the east coast. This supposition of course does *not* clash with the Eskimo traditions, for we have seen that Erik the Red found remains of Eskimos on the west coast, which remains may be due to early immigrants who had gone on towards the east. As a matter of fact, an account contained in one of the sagas of a voyage which is said to have been undertaken about 1000 by Thorgils Orrabeinsfostre, points to the southern part of the east coast having been inhabited at that early time.

It has often been supposed that the climate of Greenland was considerably milder in the Middle Ages than to-day, and this hypothesis has been corroborated, rather than the reverse, by the excavations of Nörlund. It has also been maintained that the Eskimos originally kept to North Greenland, but as the climate grew worse, and the sea from which they obtained their food was covered by ice, they found suitable hunting grounds in the regions where the Norsemen lived. Even though such a change of climate has taken place, its effect on the Eskimos will certainly have been different

from the influence, which it would have on other races. It must be borne in mind that North Greenland is still inhabited (that is, after the change in climate) and, besides, neither winter ice nor drift ice trouble the Greenlanders, unless present in overwhelming quantities. It is more probable that the Eskimos left the southern part of the west coast when the East Greenland drift ice, with its masses of bladdernose, no longer reached beyond Cape Farewell during the mild period, and then returned when the climate once more became colder.

However that may be, the Eskimos took possession of the whole of the west coast. Pining and Pothorst, who were sent out by King Christian I with the object of rediscovering Greenland, presumably in 1472, may have encountered Norsemen, though of this nothing is known, while, on the other hand, they brought home accounts of Eskimo whalebone houses which were later on used by Olaus Magnus. But when in 1578 Sir Martin Frobisher landed in Greenland, and thus inaugurated a new era in its history, he encountered no Norsemen, only Eskimos.

At the present time the whole of the west coast is inhabited. From the most southerly dwelling place of the Polar Eskimos it is only two or three days' journey with dog sledges to Igdluligssuaq south of Holm Island, the most northerly dwelling place of West Greenland. In the same manner as the Polar Eskimos of an earlier time did not penetrate so far south as at the present day, the West Greenlanders did not advance so far north. Also in their case it is the bear hunt that is the attraction. In 1850 their most northerly dwelling place was Arpik at Upernivik Icefiord and, in 1903, Mernoq slightly south of Cape Shackleton. From Melville Bay the inhabited regions extend as far as Cape Farewell or a short distance beyond it to Qernertoq on the most southerly east coast.

Numerous ruins occur in West Greenland. To mention them all would be tantamount to mentioning all the places where sealing can take place. Considerable finds from the stone age have been made on the northern part of the coast where there are, *inter alia*, large groups of ruins round Disko Bay, for instance, at Qeqertaq, Nûgâq and Sermermiut. Several of these places testify to their great antiquity by containing roundish house types, which are different from the rectangular houses of a later period. Such roundish ruins are to be found scattered all the way from the Upernivik to the Julianehaab Districts, and are of frequent occurrence in the Sukkertoppen District. Other house sites are so old as to be inundated at high water; examples of such are found in the Christianshaab, Godthaab, and Julianehaab Districts. In them lies hidden a wealth of material yielding knowledge, not only of the archæology of the Eskimos, but also of the history of the settlement of Greenland in the past, and it is to be hoped that they will soon be subjected to systematic investigation.

The depopulation of **Frederik VI Coast** has only taken place in quite

recent years. It is possible, or rather probable, that the coast was inhabited in the Middle Ages. *Flóamannasaga* narrates the following of a voyage undertaken in 1001–05 by the above-mentioned Thorgils Orrabeinsfostre. On the south part of the east coast of Greenland, Thorgils one morning saw two “troll-women,” possibly meaning Eskimos. The saga, however, is of a comparatively late date (about 1400) and in several respects very unreliable. In an Icelandic annal of the year 1266 there is a record to the effect that “pieces of wood were found out at sea, which had been cut with hatchets and adzes, and among them one in which wedges of tusk and bone were embedded.” Though it is not expressly stated where these objects were found, it seems to appear from the context that it was in the sea between Iceland and the Greenland settlements, or, in other words, in the East Greenland Current, in which case the objects cannot very well have come from other parts than East Greenland—unless the supposition is preferred that they have been carried across the North Pole from Alaska.

In 1728 Hans Egede heard of natives living in the southern part of the east coast, and in 1733 he met a woman who had herself been far north in these regions. The Eastlanders were in the habit of acquiring needles, knives and other iron objects by bartering with their western kinsmen. In 1753 Walloe reached the southern part of the east coast and penetrated as far as Nanúseq. In 1829–30 the whole of Frederik VI Coast was subjected to a preliminary investigation by W. A. Graah. He estimated the population of those parts at 600 individuals, but the Eastlanders from the southern dwelling places had then already begun to settle on the west coast at the mission posts, and in 1832 Graah placed the number of inhabitants as low as 480. The church registers at Frederiksdal show that in the years 1822–32 a total of 335 Eastlanders were baptized there, and in 1832–84 the number was 274. Very few of those who had been baptized returned to their native place, and during the 19th century murder and starvation seem further to have decimated the population.

In 1884 Gustav Holm only found 135 Eskimos on Frederik VI Coast, and in 1887–1900 114 passed Cape Farewell, while some families settled at Angmagssalik after the trading post had been founded there in 1894. The last 38 Eskimos left Tingmiarmiut in 1899 and in the summer of 1900 arrived on the west coast. One family consisting of eight members remained, but since then they have moved to Angmagssalik.

The actual centre of the settlements along the inhabited part of Frederik VI Coast was the tract between Mogens Heinesen Fiord and Bernstorff Fiord with the principal dwelling places Tingmiarmiut, Ūmánaq, Akorninarmiut and Igdlularssuk. At the mouths of the fiords and between the islands in these parts there are rapids with good sealing. Outside this region there were, as a rule, only some stray families who, on their trading expeditions, spent one or two winters at Umívik and Pikiutdleq towards the north,



or at Iluileq and Lindenow Fiord towards the south. In the latter place a settlement was again founded, on Danish initiative, in the summer of 1925, and in addition the Angmagssalik Eskimos have begun to inhabit the northern part of the coast.

**Angmagssalik District.** After the depopulation of Frederik VI Coast and until the establishment of the new settlements at Scoresby Sound, the Angmagssalik District was the only inhabited place on the east coast of Greenland. The first reports of the Angmagssalik Eskimos reached civilization in 1752. Peder Olsen Walløe, the re-discoverer of the east coast, while wintering in 1751—52 at the present Julianehaab, encountered some East Greenlanders from the then inhabited southern part of the coast. They told him, among other things, of Qulusuk, the only place in East Greenland where there was caplin fishing. Qulusuk is situated in the neighbourhood of Angmagssalik (*i. e.* caplin place). Furthermore, they mentioned some inhabited regions, including Sermilik, which is the name of the largest fiord of the Angmagssalik District.

Only half a year later this place was again heard of. In the summer of 1752 an Eastlander arrived at the station of the Moravian Brethren, at New Herrnhut. He gave an account of some friends who had gone so far north along the east coast that the sun, in summer, illuminated the mountain tops at midnight. They had also seen a beautiful fiord, but had not ventured to enter it for fear of the cannibals who were said to live there. This description agrees with the Angmagssalik District. Mutual accusations of cannibalism are very common amongst uncivilized Eskimos.

However, the name Angmagssalik only became known in 1849. In this year a water pail and dipper were sent to the Ethnographical Museum at Copenhagen by the manager of the trading post at Julianehaab. He had bought the specimens from an Eastland family, and in his report he mentioned Angmagssalik as the place from where they came. In literature the name first occurs in 1877 in Rink's famous work "Danish Greenland", and finally, in 1884, the district was visited for the first time by Gustav Holm. Some members of the tribe which was called Angmagssalingmiut by its southern neighbours, were already encountered at Igdlularssuk; but Holm continued his journey and wintered at Tasiussârssuk akutdleq. Here the population centres round the rapids in the three fiords, Sermilik, Angmagssalik and Sermiligâq; but of recent years untoward hunting conditions have forced them to scatter over greater areas, some going south to Umîvik, others to Kialineq towards the north. In the winter 1923—24 there was, for instance, a small dwelling place at Umîvik and a larger one at Igdlularssuk.

**The Northern East Coast.** A full century before any white man set foot on the desert shores north of Angmagssalik, an incident occurred which, however, had long since been consigned to oblivion, when attention was

once more drawn to it by Th. Thomsen—an incident which seems to suggest that northern East Greenland was inhabited in those days. In 1726 three very interesting specimens were sent in to the old *Kunstammer* (the Royal Cabinet of Curiosities), *viz.* a kayak paddle, a bird dart and a kayak stand which had been washed ashore in Guldbringa Syssel and Isafiord Syssel in Iceland. Considering the currents in the Northern Atlantic, it must be taken for granted that these specimens came from the east coast of Greenland, north of lat. 65° N. (Angmagssalik), perhaps, rather from the region round Scoresby Sound. Unfortunately the next inventory of the Cabinet of Curiosities, dating from 1737, is so brief that it is impossible to decide whether the three above-mentioned specimens are still to be found in the National Museum.

When Clavering landed on August 18th, 1823, on the island which bears his name, he met the only Eskimos who have ever been seen in this part of Greenland. There were twelve persons in all, including women and children, and they lived in a sealskin tent, were dressed in sealskins, and possessed a kayak and weapons like those which were used on the west coast. "The handles were of wood, the points tipped with bone, and some of them with iron, which had all the appearance of being of meteoric origin," writes Clavering (*Edinburgh New Philos. Journ.* IV, 1830, p. 21). After a short while the Eskimos fled, frightened by a shot, and since then no natives whatsoever have been seen along the north-east coast.

However, according to narratives from Angmagssalik, the central part of Christian IX Land up to lat. 68° N. has, until a comparatively late period, been inhabited by people from Angmagssalik. Eskimo place-names reach nearly the same latitude, and antiquities from the coast south of the latter strikingly resemble those from Angmagssalik. In this place the Carlsberg Fund Expedition located several sites of former settlements, especially centring round the great rapid in Horror Bay. This is the Kialineq country which has also been inhabited in quite recent years. The most northerly dwelling place which the Angmagssalik Eskimos are known to have had here, is North Aputitêq. The extremely inhospitable Blossesville Coast, the northern part of Christian IX Land, has evidently been entirely or almost entirely uninhabited, but farther north numerous remains have been found at Scoresby Sound, King Oscar Fiord, and Franz Joseph Fiord, on the coast between Clavering and Shannon Islands, and at Dove Bay. The most northerly, large dwelling place was found by the "Danmark" Expedition—slightly to the north of Dove Bay at Sytten Kilometer Næsset, where there are sixteen winter houses, fifteen tent rings and several other remains. At Skær Fiord farther north several summer camps were discovered. North of this place the traces of habitation were very scattered. Winter houses were only found at Ingolf Fiord, *viz.* one on Eskimo Foreland south of the mouth of the fiord, and another at Sophus Müller Foreland on the north side.

The most northerly Eskimo remains upon the east coast are the tent rings discovered by the First Thule Expedition at Indenpendence Fiord, on the south side of Peary Land. There were five on the west coast and two on the east coast of Brønlund Fiord. The two last mentioned are quite small and have either been for temporary use, for instance, on a hunting expedition, or the inhabitants have lacked sufficient wood and skins. The other tent rings are considerably larger, and round them lay bones of musk-oxen and seal.

In 1925, 70 Eskimos from Angmagssalik were transferred to Scoresby Sound, with the object of founding a new colony.

**The North Coast** lies, a desert stretch 1000 km long, between the tent rings at Polaris Bay and the tent rings at Brønlund Fiord—an immense distance, where only in one place traces have been found of human beings, *viz.* a meat cache at Frankfield Bay, slightly to the west of St. George Fiord, which shows that Eskimo hunters have penetrated as far as these latitudes. It is a remarkable fact that no other traces have been found, although the Second Thule Expedition as well as the Bicentenary Expedition searched very energetically for them. Even at the large rapid at the mouth of J. P. Koch Fiord, which forms, as it were, an oasis for seal and man, there are no house ruins, and yet it is certain that if the Eskimos have once migrated to the east coast north of Greenland, they must have wintered under way on the north coast. At the present stage of our knowledge the only possible manner in which such a migration can have taken place, seems to be that they have lived exclusively in snow-huts, like the Central Eskimo tribes of Canada do to-day.

**Retrospect of the Relation between Inhabited and Uninhabited Regions.** Is it chance that some coasts are inhabited, whereas others lie waste and deserted? It must constantly be borne in mind that in Greenland we are not only at the very outskirts of the inhabited, but frequently also of the inhabitable part of the globe. A trifling incident, a lengthy period of starvation, an epidemic, ptomaine poisoning due to the stranded carcase of a whale, may shift the balance, and a region which has formerly been inhabited may be laid waste. There is no doubt that the depopulation of the east coast in many cases may be ascribed to such causes. No one is justified to draw lines across a map and to believe that it is possible, in this way, to make a permanent division between inhabited and uninhabited parts. Here, at its periphery, human life is in constant fluctuation, where one span of years may be characterized by an advance through uninhabited regions and another by retreat.

Not only nature but also man himself may give the impulse to such shiftings within the inhabited area. Oscillations brought about by historical causes combine with fluctuations resulting from geographical facts. Unless a mission and trading post had been founded at Angmagssalik so as to



check the movement at the right moment, the whole of the east coast would have been deserted and the Julianehaab District over-populated. Melville Bay is likely to be one of these "political deserts" which frequently spring up, where two populations look at one another with distrust. Legends prevailing among the Polar Eskimos seem to suggest that an old trading communication with the Upernivik District was interrupted by hostile encounters, and for a long while no sledge tracks passed across the ice of Melville Bay.

Because great parts of Greenland are uninhabited, they have by no means been deprived of all importance to the economic life of the inhabitants. Nothing is more fatal than when European agricultural principles are subconsciously taken as the basis of the conception of the living conditions of a hunting people, while presuming that such a people have enough in the plot of ground where the dwelling place happens to stand. The uninhabited tracts represent the scanty reserves of a needy people. They are the places to which the people move when, owing to a more concentrated manner of living, the stock of game has been reduced locally, and, first and foremost, they are the natural game preserves, where the animals are left to propagate in peace. Before the reckless murderings of foreign sealers, East Greenland in particular was of the greatest importance from this point of view, as the seals migrated to Angmagssalik and still more southerly parts from the uninhabited districts of the north.

The uninhabited areas are essentially such as are characterized by Arctic and high-arctic conditions. The sub-arctic coasts are all inhabited, with the exception of Frederik VI Coast which makes a transition tract to the Arctic regions proper, and has been depopulated for quite special reasons. The Greenlanders have, as already pointed out, specialized on sub-arctic culture, while at the same time their country offers other possibilities which they have tried and then again abandoned. We are hardly entitled to look for the explanation in the supposition that it should be easier to live under sub-arctic conditions, for this is only the case with a Europeanized civilization which, not least, must pay attention to navigation. On the contrary, the Eskimo culture proper, in its working and design, is adapted to purely Arctic conditions, and *a priori* it might even be expected that this fact would be still more pronounced in Greenland, to which access can only be had through high-arctic regions. The predilection for sub-arctic culture is probably connected with special, hitherto unravelled problems of immigration and to certain facts relating to the development of Eskimo culture in its entirety.

#### STATISTICS OF THE POPULATION.

**Size and Demographical Composition.** The native population forms by far the greater and also the most constant part of the inhabitants of Greenland and is the only one which concerns us in this connection, the

few hundred Danish officials in the service of the Government or private companies falling outside the scope of our work. The number of native Greenlanders (not including children born of Danish parents in Greenland and receiving Danish education) amounted on December 31th, 1923, to a total of 14,807<sup>1</sup>, distributed as given in the following table:

Table I. Native Population 1923.

District	Men	Women	Total
Upernivik.....	523	568	1,091
Ũmánaq.....	682	731	1,413
Godhavn.....	170	188	358
Ritenbenk.....	284	296	580
Jacobshavn.....	271	324	595
Christianshaab.....	271	284	555
Egedesminde.....	772	807	1,579
North Greenland...	2,973	3,198	6,171
Holsteinsborg.....	413	401	814
Sukkertoppen.....	580	696	1,276
Godthaab.....	612	644	1,256
Frederikshaab.....	417	493	910
Julianehaab.....	1,583	1,837	3,420
South Greenland....	3,605	4,071	7,676
West Greenland....	6,578	7,269	13,847
Angmagssalik.....	343	366	709
Thule.....	?	?	251
Greenland.....	?	?	14,807

In order to obtain a general view of what is really expressed by these figures, it will be necessary to compare them with the populations at earlier periods; but this cannot be done for Greenland in its entirety, as the material is lacking. We are able to go farthest back on the west coast, although we have no means of determining the size of the population at the time of Hans Egede; the figure—30,000!—which is sometimes given, is at any rate quite fantastic, and 8,000 undoubtedly comes closer to the actual facts. However, in the course of the 18th century several epidemics raged with dreadful violence along the west coast and carried away great numbers of the population. In 1734 there was a very serious smallpox epidemic which

<sup>1</sup> The latest accessible figure from the Thule District is, however, a year older than the other specifications, *viz.* from January 1st, 1923. In the course of 1923 four deaths occurred, but the number of births is unknown. It should be borne in mind that this chapter was written in 1925.

is supposed to have killed more than 2000 individuals. In 1782--86 parts of the west coast were ravaged by another epidemic, which also made terrible havoc among the population, and in 1800 and 1808 there were further small-pox epidemics. In 1789 a census taken along the west coast gave a result of 5,122 individuals, setting aside, however, the Upernivik District which had not as yet been included in the colonized area, while the figure, as far as the Julianehaab District is concerned, is partly based upon a rough estimate. From the beginning of the 19th century there are fairly accurate census from the west coast. Still, it must be borne in mind that before about 1850 they cannot lay claim to absolute accuracy, as there were until then some heathen families in the Upernivik District, about whom it was impossible to obtain full information. Table II shows the population on the west coast and the mean yearly increase, calculated on the strength of the mean population within various periods.

Table II. Population of West Greenland and  
Mean Annual Increase.

Year	Number	Mean annual increase	
		Period	Per cent.
1805	6,046		
1820	6,286		
1840	7,877		
1860	9,648		
1880	9,751	1860—1880	0.04
1890	10,254	1880—1890	0.49
1901	11,190	1890—1901	0.84
1911	12,510	1901—1911	1.12
1921	13,401	1911—1921	0.69

From this table it appears that the population of the west coast was more than doubled in the course of the last century, increasing by 130 per cent from 1805 to 1921, and that it is constantly increasing. In fact, a similar result can only be shown by very few primitive peoples after they have come under the influence of civilization. It is true that 500 or 600 Eskimos immigrated from Frederik VI Coast to the Julianehaab District in the course of the century, so that the surplus is not exclusively due to the natural growth of the population, but this does not materially alter the result. Even apart from this, however, the increase has not been regular, and in particular it must be mentioned that the population within the period 1860—80 was almost stationary, indeed in 1860—70 there was even a slight decrease. The decline in the yearly increase within the period 1911—21, as compared with that of the foregoing decade, is due to extraordinary cir-



cumstances, principally to the violent influenza epidemics which ravaged Greenland as well as Denmark during that period. These epidemics are also responsible for the fact that the increase, within the same period, was less in North Greenland than in South Greenland, which is the opposite of the normal conditions.

As far as Angmagssalik is concerned, no earlier information is at hand than that of Holm, dating from 1884, and since then conditions have changed, as is shown by the following table:

Table III. Population of Angmagssalik and  
Mean Annual Increase.

Year	Number	Mean annual increase	
		Period	Per cent.
1884	413		
1901	436		
1911	576	1901—1911	2.74
1921	680	1911—1921	1.87

It must, however, be borne in mind that some families immigrated there from Frederik VI Coast during the first years after the establishment of the trading post, but this by no means compensates for the number of individuals who went south between 1884 and 1894; hence, the extremely small increase before 1901. In the 20th century the total of the population includes some immigrating West Greenlanders whose number in 1923 amounted to 21. It appears that in view of the extraordinarily great emigration which was due to the desire to live in the neighbourhood of a trading post, the increase in the population was very great, even apart from the small number of individuals who immigrated from the west coast. The decline in the increase within the period 1911—21 is also here due to influenza.

The number of the Polar Eskimos was estimated at 253 by Peary in 1895, but in 1906 it had dwindled to 207. Since then the tribe has slowly grown, so that in 1918 it numbered 235 individuals, and in 1923 it had practically reached the same figure as thirty years ago, *viz.* 251.

For Greenland as a whole the yearly percentage of increase of the population during the last ten years has been less than in Denmark proper (1.0 per cent) but considerably greater than in France (0.4 per cent).

If the population on the west coast and at Angmagssalik is distributed according to age, in 1921 we get the result which is shown in table IV:

Table IV. Age Groups in West and East Greenland 1921.

Age group	North Greenland		South Greenland		East Greenland	
	Men	Women	Men	Women	Men	Women
0—4. . . . .	382	383	577	583	54	64
5—9. . . . .	421	390	481	523	64	53
10—14. . . . .	383	409	404	422	42	46
15—19. . . . .	359	327	420	388	40	50
20—24. . . . .	302	312	297	338	34	25
25—29. . . . .	232	257	290	317	17	17
30—34. . . . .	180	174	200	280	16	21
35—39. . . . .	158	156	187	236	26	21
40—44. . . . .	131	184	193	202	13	19
45—49. . . . .	126	153	133	186	11	16
50—54. . . . .	92	100	103	145	8	8
55—59. . . . .	65	92	72	107	2	6
60—64. . . . .	41	64	40	64	1	3
65—69. . . . .	12	33	24	45	1	2
70—74. . . . .	7	11	10	21	0	0
75—79. . . . .	2	6	5	9	0	0
80—86. . . . .	1	0	0	0	0	0
Unknown . . . . .	27	43	43	41	0	0
Total . . . . .	2,921	3,094	3,479	3,907	329	351

It is a common demographic rule in Europe that the age groups under 15 and above 50 years taken together will constitute half the population. As far as West Greenland is concerned we have 5686 of the former and 1,204 of the latter group, a total of 6890 or 489 per mille of the population. This is less than normal, and there can be no doubt about the reason, *viz.* it is the old people who are lacking in the Greenland community. This same fact also appears from a comparison with the age groups in Denmark:

	Greenland	Denmark
Under 20 years . . . . .	52.2 per cent	43 per cent
20—39 „ . . . . .	29.4 „ „	29 „ „
Over 40 „ . . . . .	18.4 „ „	28 „ „

Table I shows that there is a considerable surplus of women in Greenland; thus on the west coast there are 7269 women and 6578 men. In table V the number of women per 1000 men is given for West Greenland within different years:

Table V. Women per 1000 Men. West Greenland.

Year	North Greenland	South Greenland	West Greenland
1860	1,027	1,193	1,116
1880	1,076	1,180	1,133
1901	1,118	1,179	1,151
1921	1,059	1,123	1,105

From this it appears that the excess of women over men, as in Denmark proper and many other countries, is of constant occurrence. That the difference is comparatively small during the last mentioned period, is because the influenza carried away more women than men. But what then is the reason for the numerical excess of women? That geographical factors have some bearing upon this circumstance is clearly proved by the striking difference between the northern and southern part of the west coast. The disproportion is constantly greater in the south than towards the north, except in the last mentioned period, and this is solely due to the fact that the ravages of influenza were severer in North Greenland than elsewhere. That it is not, on the other hand, a question of racial peculiarity appears from table IV, which shows that among children the excess of females is very slight, and as a matter of fact the birth rate, as in Europe, amounts to 100 girls as against about 106 boys. After the age of twenty, there is, however, a colossal increase in the disproportion between the sexes, so that as against 1000 men over sixty there would be no less than 1791 women, whereas the proportion in Denmark is 1000 : 1193. The excess of women over men must, therefore, be explained by the increasing rate of mortality among adult males, this mortality being, in its turn, highest on the southern west coast. As to the reason there can be no doubt. It is the dangerous seal hunting which makes itself felt and particularly in South Greenland where kayaking often takes place in storms and heavy seas.

**Natural Movement of the Population.** In earlier times it was frequently maintained that the Eskimo women were less fertile than Europeans; but by means of modern statistics it has been proved that this view is entirely wrong. Bertelsen, who has subjected the birth and death rate in West Greenland to interesting investigations, has, on the contrary, proved that the frequency of births is even very high and that a birth rate which is exceptional in Europe is by no means uncommon in Greenland. Furthermore, it is rather greater than the reverse, where the population is least mixed.

For West Greenland Bertelsen has calculated the number of births in proportion to the mean population, arriving at 36.1 per mille for the period 1851—80, and 37.6 per mille for 1881—1900, but there are local fluctuations,



the figures for the districts round Disko Bay being lowest, *viz.* 28 per mille in 1851—80, whereas those of the Ũmánaq District are highest, *viz.* 42 per mille during the same period. For the ten years 1912—21 the birth rate for North Greenland was 37.7 per mille, for South Greenland 41.8 per mille, and for East Greenland 45.4 per mille, or a mean of 40.2 per mille for these places. In comparison it should be mentioned that the birth rate in Denmark proper in 1910—1919 was 25.6 per mille. As examples from other primitive but now Europeanized peoples in different geographical surroundings the facts given by Erland Nordenskiöld about Mosetene and Guarayú, two Indian tribes in the Bolivian lowlands, may be mentioned. The birth rate was here, 83 and between 65 and 69 per mille respectively, or, in other words, enormously high. As regards births, West Greenland most nearly approaches countries like Roumania and Bulgaria.

In West Greenland and Angmagssalik the greatest number of births occur on an average in the months June to September, but Bertelsen has proved a curious dependency upon geographical conditions. North of Disko Bay, or in the Arctic regions proper, the number of births increases greatly during the first three months of the year, and the same recurs in the two most southerly districts along the coast, whereas the intermediate districts show a greater irregularity. The explanation is no doubt that in the most southerly sub-arctic as well as in the arctic area, the second term of the year signifies a sudden transition from times of scarcity to superfluity, which is naturally reflected in the sexual life.

The number of still-born children is greater than in Denmark, amounting in 1923 to nearly 5.6 per cent of the total births.

Only a short stay among Eskimos is necessary in order to realize the fact that, whether civilized or uncivilized, they consider the unmarried state as abnormal for grown-up persons. The old bachelor is a stock, tragi-comical figure in their tales. As to Greenland, marriage conditions in the Ũmánaq District have been dealt with statistically by Bertelsen. As particularly characteristic features which, however, recur everywhere in the country he emphasizes: (1) the extremely great frequency of marriages and the youthful age at which marriages are contracted by both sexes; (2) the short duration of marriages owing to early death, the great tendency towards second and the comparatively still greater tendency towards third marriages, and (3) the fact that there are comparatively few unmarried adult persons, but a rather considerable number of widows. In table VI the relative number of married persons of both sexes is given for West Greenland in different years. It is a characteristic feature, owing to the great mortality of the men, that the number of widows is about three times the number of widowers.

Table VI. Matrimonial Position per 1000 Persons over 20 years old.

	1860	1901	1911	1921
a. Men:				
Unmarried . . . . .	262	209	228	239
Married . . . . .	643	715	713	692
Widowers . . . . .	95	76	69	69
Total . . . . .	1,000	1,000	1,000	1,000
b. Women:				
Unmarried . . . . .	263	227	236	229
Married . . . . .	506	535	544	562
Widows . . . . .	231	238	220	209
Total . . . . .	1,000	1,000	1,000	1,000

The fact that the population of Greenland, in spite of the high birth rate, does not increase more than the population of so many other countries, is owing to a correspondingly high rate of mortality. The figures given below show it in different periods:

1871—1880 : 36.9 per mille (the west coast alone).  
 1881—1890 : 32.3 „ „ ( „ „ „ „ )  
 1891—1901 : 31.6 „ „ ( „ „ „ „ )  
 1902—1911 : 29.7 „ „ (the west coast and Angmagssalik)  
 1912—1921 : 32.0 „ „ ( „ „ „ „ „ )

Apart from the last abnormal decade where influenza has brought about a considerable increase, the death rate is constantly decreasing, even though it is as yet very far from that of Denmark proper, where in 1910—19 it was 13.6 per mille. With the above-mentioned Bolivian Indians the death rate was, however, 57 per mille among the Mosetene and 52 per mille among the Guarayú, this, it should be noted, being in periods when no epidemics were raging. There can be no doubt that the mortality in Greenland was far greater before than during the colonization. As a sort of mental experiment Bertelsen has calculated the population in the 14th century—when the western settlement was destroyed—starting from the presupposition that the yearly increase was 0.5 per cent. In that case the Eskimo population of West Greenland would not even have amounted to a thousand individuals, which undoubtedly is below the actual figure, and this in its turn means that the increase must have been less. As the birth rate has hardly undergone great changes the explanation must be looked for in the higher death rate of earlier days.

The death rate is large for both sexes and at all ages. For West Greenland Bertelsen computed that at the end of the 19th century the same

mortality quotient prevailed regarding boys from the age of 10—15 as for men of the forties in Denmark proper, and in the twenties the rate of mortality of Greenland women corresponds to that of Danish women in the fifties. It is, however, doubtful whether racial peculiarities exercise any influence in this respect, or whether it is not rather the result of the hard struggle for life generally, and especially of the wretched hygienic conditions.

Besides the general low vitality, there are two facts which are characteristic of conditions in Greenland, *viz.* the very high rate of mortality among infants, and the correspondingly immense rate of mortality among men of the age group 20—35 years, which fact is, in its turn, the cause of the great numerical disproportion between the two sexes. Within the period dealt with by Bertelsen, the rate of mortality on the northern west coast among men of the age group 30—35 years was 4.5 times as great as within the corresponding age group in Denmark, and on the southern west coast the proportion for the age group 25—30 years was even six times as great. It is evident that the enormous rate of mortality among young men is due to the dangerous occupations followed by the Greenlanders.

Here we are, however, confronted with the problem of local differences in the death rate. It is striking that the death rate is constantly greater on the southern as compared with the northern part of the west coast, apart from the last ten years where the influenza epidemics exceptionally raised the rate of mortality to 34.7 per mille in North Greenland at against 21.2 per mille in South Greenland. However, the lower rate of mortality within the last fifty years especially benefits South Greenland, and one of the principal causes is undoubtedly the abolition, in 1900, of the Moravian missions in the Godthaab and Julianehaab Districts, for the Moravian Brethren acted very much upon the principle that only one thing is needed, and packed their "sheep" together in large congregations, where all possibilities of hunting soon became exhausted.

It is impossible to say anything for certain about the causes of death, as only in a very few cases are the bills of mortality made out by medical authorities. That by far the greater number of deaths, presumably about a third, are due to lung diseases is a fact, and only natural in a country where tuberculosis has gained such a firm foothold as in Greenland. Then there are infantile diseases, and accidents, most of which are due to drowning and chance shots. As might be expected, there is a yearly periodicity in the distribution of accidents. They are fewest late in summer, but reach their climax in South Greenland with the gales and rough seas of the winter, whereas in North Greenland it is partly the autumnal storms and partly the treacherous spring ice which are responsible for most of the accidents. Suicide, which is rather common among Eskimos living outside European influence, is rarer in Greenland than in Denmark, but it is not unknown.

**Density of Population.** The simplest arithmetical process is sufficient



to show that every individual in Greenland has at his disposal an area of 147 square kilometres. This result is only subject to one objection, *viz.* that though mathematically unassailable, it is, geographically speaking, utterly absurd. When dismissing the completely uninhabitable inland ice and only taking into account the ice-free outerland, we obtain a result of 1 individual per 21 square kilometres, or 0.048 per square kilometre, which offers the advantage of allowing of a comparison, for it is a slightly greater density of population than in Alaska and 16 times the density of the Northern Territory of Australia.

But even this calculation does not offer much result. The idea to be expressed through the figures of density of population is the intensity of human exploitation of the economic possibilities of the country. Therefore, even if we disregard in Greenland, not only the inland ice, but also the extensive areas of the north and east coast never visited by man, and exclusively occupy ourselves with the inhabited districts, the result remains equally unsatisfactory, for the Greenlanders do not at all exploit their country as *land*. As a rule it is a matter of economic indifference to the Greenlanders whether they have ten or twenty or a hundred square kilometres behind them; only in respect of the comparatively insignificant deer-hunting does the land play any part, and that an entirely negligible one as compared with the overwhelming importance of the sea.

Therefore, the correct exponent of the density of population in Greenland is not as calculated per square kilometre, but per kilometre of coast line. As the total coast line of Greenland is measured at 44,085 km, the result is 0.34 per km. However, mere common sense, also in this case, demands the deduction of the entirely uninhabited coasts, and then we shall find that density within the inhabited regions is, on an average, 0.51 per km, the figures for the individual districts being as follows:

Thule .....	0.08	Egedesminde .....	0.68
Upernivik.....	0.39	Holsteinsborg.....	0.54
Ūmánaq.....	0.77	Sukkertoppen .....	0.66
Godhavn .....	0.66	Godthaab .....	0.55
Ritenbenk .....	1.21	Frederikshaab .....	0.60
Jacobshavn .....	1.61	Julianehaab .....	0.89
Christianshaab .....	0.81	Angmagssalik.....	0.39

Thus the Thule District has by far the sparsest population, or between six and seven times less than the normal. It is true that the most northerly as well as the most southerly parts of the district are almost entirely uninhabited, but even when we merely take into account the central part between Cape Alexander and Cape York, the figure only increases to 0.10 per km. Also Angmagssalik is below the mean and in reality more so than appears from the result of the calculation, because, as already mentioned,

emigration has lately taken place to the hitherto uninhabited regions towards the north and south.

On the other hand, the whole of the west coast, with the exception of the Upernivik District, is above the average. Most densely populated is Disko Bay, where the two smallest of the Greenland districts reach more than twice the average figure. Along the coast between Disko and Julianehaab Bays the density declines somewhat; but this, in a way, is only apparent. Along this distance we have most of the numerous long and narrow fiords of the coast. Now we are naturally not permitted to eliminate the fiords entirely, as by lengthening the coast line they also increase the hunting possibilities, but here, where the object first and foremost is to express the hunting possibilities, it is immediately apparent that only one of the coasts of a fiord should be taken into consideration; for whereas a broad bay creates different possibilities for each of the two sides, these possibilities in the case of a narrow fiord are common to both. Within this area we should hardly be very wrong in reducing the coast line measured by a third, and we should then reach the same density as that calculated for the Julianehaab District, or even a greater one. As regards this very district, we also meet with long and narrow fiords there, and in addition, the fiord-like sounds in the Cape Farewell archipelago, so when making similar allowances as those made above we arrive at the same density as in Disko Bay.

In short, the high-arctic area of Greenland, the Thule District, is by far the most sparsely populated, whereas the west coast upon the whole has the densest population. It particularly centres in the southern part of the Arctic area and along the whole of the sub-arctic coast, and within the latter, by preference, round the most southerly region, Julianehaab Bay. This agrees with what has been stated above, that the Greenlanders have specialized on a sub-arctic phase of culture.

#### *ORIGIN AND IMMIGRATION OF THE GREENLANDERS.*

**Common Characteristics and Fundamental Divisions.** It is true that Greenland, from a geographical point of view, is a well confined unity, but from this it does not follow that the same holds good in detail as regards the population, and it may even be said that because the Greenlanders form a unity from one point of view, this is not necessarily the case from another.

Physically the Greenlanders constitute a unity, in so far as no distinction can be made between local types; but the unity is not confined to Greenland, for the anthropographic surveys undertaken by Jenness and the present author among the Central Eskimo tribes of Canada show exactly the same type, and although the material from Labrador is less extensive, there is no doubt that it also recurs there. Only in Alaska, where the admixture of Indian blood has been stronger, is the type somewhat changed.

It is different with the language. From a lexical and grammatical point of view, it is true, nothing can be said for certain, but it appears from the observations made by Thalbitzer and the present author that the Greenland dialects are phonetically connected and distinguished from all others by certain common characteristics (retrogressive labialization).

In culture there are also a very few characteristics which distinguish the Greenlanders as a whole from other Eskimo peoples. The high and narrow boots of the women, the tent with the rectangular frame in front, the hair-dress of the women which consists of a single knot, all of these are characteristics which recur all over Greenland, but at the present time not outside that country. When we leave the Thule District out of consideration, Greenlandic culture offers far more characteristic features, for instance, harpoons with bone "wings" at the hind part; kayak stands raised by means of legs above the kayak deck; throwing boards with a perforation in the rear part instead of a peg, etc. The explanation of this agreement is beyond doubt not to be looked for in an original relationship, but in the mutual influence within an originally heterogeneous population, an "acculturation". There has been more than one immigration of Eskimos into Greenland, but in the course of time the different groups have coalesced more and more, and the more homogeneous the geographical conditions, and the longer the duration of the connection with the other groups, the more intimate the coalescence. As the Polar Eskimos live under such extreme conditions and presumably also represent a rather late immigration, it is natural that they have the smallest share in the common Greenlandic culture.

It is interesting to see how to this day it is possible to follow certain cultural drifts in Greenland. Thus, one current has introduced various elements from the east coast round Cape Farewell, to the most southerly part of the west coast, while another is responsible for some entirely novel implements (rifle bags, shooting screens and drift "rudders" for kayaks), which from the northern part of the west coast have spread in a southerly direction. Besides, some elements from the west coast, especially certain traits in the cut of garments and in kayak-building, have made their way to Angmagssalik as well as to Thule, where it is considered "genteel" to behave as a West Greenlander. Thus the common "acculturation" process is still going on.

Even though both in language and culture it is possible to indicate a few characteristics as being common to the whole of Greenland, there are also great differences in both respects. There are three groups of dialects in Greenland, *viz.* that of the Thule District, that of the west coast south of Melville Bay, and that of the east coast, and corresponding to these groups there are also three cultural sub-areas. A fourth cultural province comprises, as appears from the archæological excavations, the now uninhabited north-east coast.

**Cultural Provinces.** When the Polar Eskimos were discovered in



1818, they had abandoned reindeer hunting, trout fishing and the catching of sea mammals from kayaks, as well as the implements pertaining to these occupations. Also the open skin-boat, the umiak, was unknown. On the other hand, there are traditions of the use both of the kayak and the umiak (the word *umiaq* also occurs in place-names like Umivik, Saunders Island); and archæological excavations in the district have brought to light an old civilization, which even in a very pronounced degree was based upon the catching of sea mammals in open water. It is true that it is still uncertain whether the subjects of this early civilization were the direct ancestors of the present Polar Eskimos, but many facts are in favour of the supposition, and when gradually many cultural elements which together are characteristic of the summer aspect of Eskimo life are now looked for in vain, it is evidently due to a negative, geographical adaptation, a simplification of the way of living which could be carried out under extreme Arctic conditions.

Between 1862 and 1866 the Polar Eskimos were taught the use of kayaks and kayak implements, of bows and arrows and trout leisters. Their teachers were Eskimos who had immigrated from the northernmost part of Baffin Island, and it is, consequently, a matter of course that all these implements are distinguished from the Greenland types proper and agree with those of the Central tribes. However, the Polar Eskimos are also in a few other particulars more closely allied to the Central Eskimos than is the case with the remaining population of Greenland; for instance, in that they never use urine for skin dressing. That, contrary to the West Greenlanders and the Angmagssalik Eskimos, the Polar Eskimos use snow huts, indicates on the other hand, no fundamental difference, as snow huts were also known in old-time Greenland outside the Thule District. Upon the whole there is, from a cultural and especially from a linguistic point of view, so much agreement between the Polar Eskimos and the other Greenlanders that they cannot, without further qualification, be incorporated into the Central Eskimo group, as is done by certain authorities, but in this, as in a purely geographical respect, they occupy an intermediary position between the inhabitants of northern Baffin Island and West Greenland.

The west coast south of Melville Bay nowadays shows a very homogeneous culture, but this can hardly have been the case always. It is evident that an old "acculturation" has largely wiped out the peculiarities of the different regions, but of this very little is known as yet. Corresponding to the principal dialects of the Upernivik District, Nordost Bay, Disko Bay, the central coast, and Julianehaab Bay, there were possibly peculiarities, which were principally of a cultural character. Of particular interest is the position occupied by Julianehaab Bay. Phonetic peculiarities of the dialect spoken there, which within historical times have spread from the bay in a northern direction, seem to suggest that the population was originally more closely allied with the natives of the east coast than with the West Green-

landers. This supposition is also borne out by the personal names, which are inherited according to definite rules and with incredible tenacity, and it further agrees with the theory that the destroyers of the eastern settlement came round Cape Farewell.

Nowadays the culture of the Julianehaab District is the common west coast culture, though intermixed with some east coast elements, such as bird darts with one lashing at the side-prongs instead of two, white skins for the covering of boats and wooden stilettos for killing wounded seals, *et al.* These elements have been considered as further evidence of a close affinity with the East Greenlanders, but the peculiar thing is that this is hardly the case. On the contrary, these eastern cultural elements seem to have been adopted at a comparatively late period, some even within the last generation. In 1912 I received in certain cases an absolute proof of this, and most clearly from a small improvement of the ordinary kayak harpoon. From olden times in West Greenland a certain type of the so-called "winged harpoon" is provided with a small bone peg at the rear between the "wings," against which the hook of the throwing board may act. At Angmagssalik an oblique plane takes the place of the bone peg, in which manner the aim becomes surer (fig. 2). This improvement was greatly admired by Holm's Eskimo boat crew from the Julianehaab District, when in 1884 they observed it on the east coast, and in 1912 I found it introduced in the Julianehaab and partly even in the Frederikshaab District.

The development has evidently been as follows: First Julianehaab Bay, from a linguistic and probably also from a cultural point of view, has been most closely allied to the east coast; then it has from a cultural point of view grown together, as it were, with the west coast, the communication being far easier in these parts; finally, of quite recent years there has been a rapprochement to the east coast, undoubtedly in consequence of the fact that the population of the latter tried to get into contact with the Danish trading and mission posts on the western coast.

The most striking cultural difference along the west coast is, however, that of the difference between the Arctic culture in the north and the sub-arctic in the south. This division has undoubtedly no connection with the original grouping of the tribes; there is no sharp dividing line between the two phases, and there is reason to suppose that the Arctic culture at one time was more pronounced in South Greenland than to-day. The sub-arctic type seems to have developed from the Arctic by adaptation to natural environment. In the south the richest sealing grounds are in the island belt, the chief objects of hunting being saddleback and bladdernose, whereas in the north the fiord seal is the great staple of life. In the south the island belt would therefore exercise a special attraction to the population, and at the same time the shoals of caplin would yield sufficient winter stores to permit of the abandonment of the regular ice hunting in the interiors of the fiords.

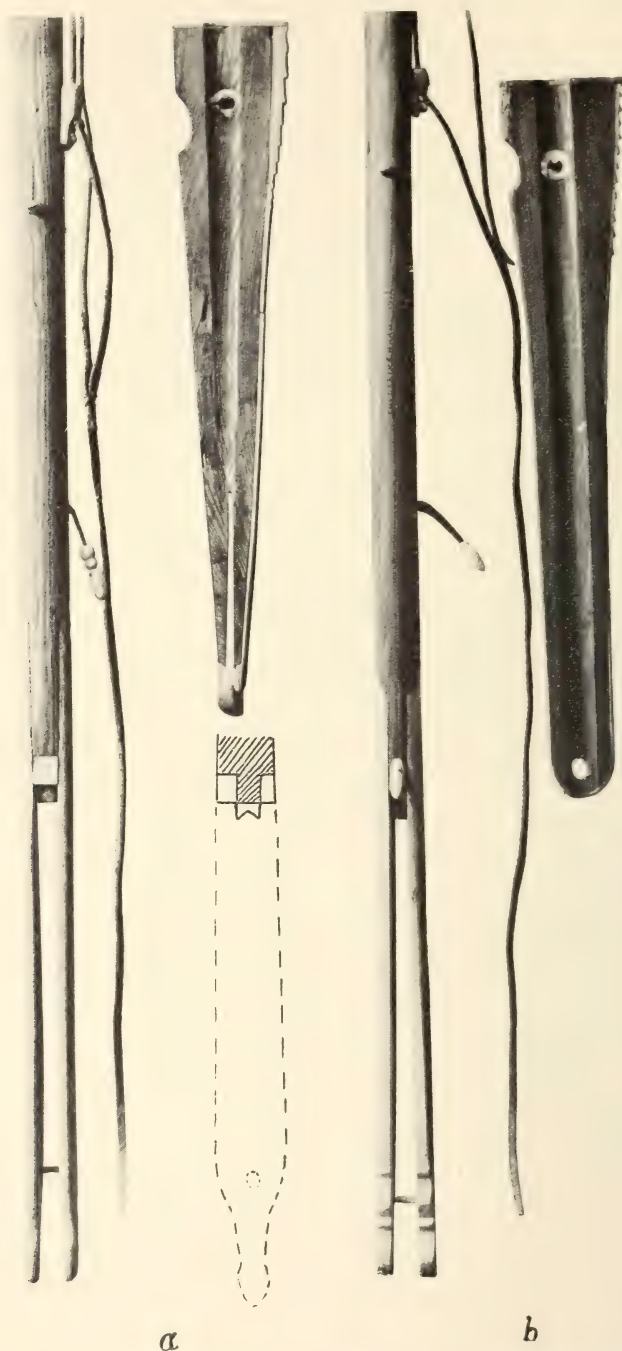


Fig. 2. Rear parts of "winged" harpoons and throwing boards, Frederikshaab District.  
*a.* with an oblique plane between the wings and a broad hook on the throwing board;  
*b.* with a bone peg on the shaft and a hole through the board.



In other words, it is possible to lay the dwelling places in the island belt. Here also the dog sledge must disappear, because the ice does not form a solid floe so close to the open sea—and so we are in reality dealing with the sub-arctic cultural phase.

The natural centre of the population along the south-east coast is the Angmagssalik District, and connected with the latter, Frederik VI Coast, the unfortunately rather unknown culture of which seems to have occupied an intermediary position between that of the west coast and Angmagssalik, though particularly associated with the latter. Many peculiarities tend to leave a certain stamp upon the Angmagssalik culture. Thalbitzer has given a list of such “provincialisms,” which, however, is very defective. Porsild proves that nearly half of them are known on the west coast, and this, as a matter of fact, applies to more than those mentioned by Porsild.

Some of the elements of culture which really characterize Angmagssalik are evidently old types which have been retained in this remote place, whereas on the west coast they have been replaced by more recent ones. Such are, for instance, the kayak stand forming a cross, which on the west coast only occurs in archæological finds, perhaps also the peculiar cut of the sealskin jackets of the men, etc. On the other hand, most of the Angmagssalik forms are due to a strong, local development. This, for instance, applies to the hinged toggle heads of the ice harpoons and leisters, the double sealing float (fig. 3), the peculiar caps of the men, etc. In this connection may also be mentioned the highly developed and very beautiful ornamentation consisting of ivory and skin mosaic. This ornamentation, it is true, was not in former times entirely unknown on the west coast, but here it never reached beyond the first attempts at deliberate art. Though it is really outside the scope of our subject it should be mentioned that also in religion a strong local development has taken place.

The maintenance of a few old forms as well as the local development of new types seems to suggest that the tribe has been fairly isolated for a long time, that is, not so isolated as to be entirely cut off from fresh impulses, but still so much so that it has had time to elaborate independently what has drifted in from without. This also appears from the language, which, *inter alia*, is distinguished by a logical formation of new words, when the common Eskimo roots have been tabooed on account of deaths and, therefore, had to be avoided, this gradually leading to a vocabulary which greatly deviates from that of other tribes. We have seen that conditions in the Julianehaab District also point towards the isolation of the east coast, and the reason for this must be found in the geography of the country. It was far easier for the Julianehaab Eskimos to maintain communication with their kinsmen in the nearest centre of habitation on the west coast, *viz.* Godthaab Fiord, than with the Angmagssalik Eskimos, as in the first place distances on the west coast are much shorter and, secondly, huge quantities of drift

ice, dangerous promontories and large glaciers vie with each other to make Frederik VI Coast extremely inhospitable and unattractive. Besides, the East Greenlanders had no commodities which the Eskimos of Julianehaab could not get equally well from the northern districts (soapstone, baleen, walrus and narwhal tusks).

A few common Eskimo implements were formerly unknown at Angmagssalik. Bows and arrows were not used, no doubt for the simple reason



Fig. 3. Double sealing float attached to the harpoon line. (National Museum).

that the reindeer, the only large land game, had already been exterminated at an early period. Arrow heads of the same type as those of West Greenland, on the other hand, occur among the finds, and bows and arrows are frequently mentioned in the legends. It is more difficult to explain why fishing hooks were not used, as from time immemorial they were known on the west coast and were even used on Frederik VI Coast, only a few days' journey from Angmagssalik. The adze was also unknown, but some stone heads of adzes have been found.

The culture on the northern east coast, as is shown by archæological finds, deviates greatly from that of the Angmagssalik Eskimos, although a very sparing use of iron and one or two types of implements (for instance, winged harpoons) show some contact with the south. However, all the peculiar new formations occurring at Angmagssalik are lacking, and most

of all the objects from these parts remind us of the old finds from the Thule District and the northern west coast. This applies to the sledge type, the needle case, men's knives with grooves for the blades etc. and may suggest an immigration to the north of Greenland, but it is no proof, as both southern coasts and not least Angmagssalik are an archæological *terra incognita*, so that it is not possible altogether to dismiss the possibility that the disagreement with Angmagssalik is not due to a different route of immigration, but quite simply to the fact that the north-east coast was inhabited before the special Angmagssalik types arose.

Bendix Thostrup, who after the death of the leader took over the archæological work of the "Danmark" Expedition, distinguishes between three different periods of habitation on the north-east coast, basing this distinction upon the state of preservation of the winter houses. He is of opinion that the earliest immigration took place to the north of Greenland, the two later, which are not sharply distinguished, from the south. However, it should be added that the archæological finds, which alone can yield a definite answer, at present neither support nor impair this hypothesis, as unfortunately material from the oldest house ruins is not to hand.

**Origin of the Greenlanders.** The last immigration to the Thule District and Greenland generally is known as a historical fact, and, according to the researches of Steensby, it can be fixed at between 1862 and 1866. The most exhaustive account of this immigration is written by Knud Rasmussen, who met the last survivors of the original immigrants. Some families of the Tununermiut tribe at Admiralty Inlet and Ponds Inlet had heard from the whalers of a tribe far towards the north and resolved to go and look for them. After having crossed Lancaster Sound they followed the east coasts of North Devon and Ellesmere Island as far as Smith Sound. Their arrival brought about an actual revolution in the life and culture of the Polar Eskimos, as they taught the latter how to build kayaks and hunt sea mammals in open water, to shoot reindeer with bows and arrows, and to spear trout with leisters.

These cultural elements together form the typical summer occupations of the Eskimos, and their absence in the Thule District is possible, because the summer season in those parts is so very short, though of course this fact alone is not a sufficient explanation of why these occupations originally fell into disuse. It is probable that at one time they were overshadowed by another summer occupation, and here the hunting of musk-oxen naturally suggests itself, this occupation playing, or rather having played, a great part in several places outside Greenland. The hunting of musk-oxen is rather irreconcilable with deer hunting, as well as with trout fishing, and naturally also with the hunting of sea mammals, because it is carried on in other surroundings, and the probability is, therefore, that these occupations have been forgotten in places which abound in musk-oxen. As a matter of fact,



bones of musk-oxen are found everywhere between Humboldt Glacier and Cape York, though in the course of time the animals themselves have disappeared, perhaps exterminated by the Eskimos.

Steensby, who was the first to throw light on these peculiarities of Polar Eskimo life, was of opinion that the transition from the common Eskimo summer occupations to the hunting of musk-oxen had taken place outside Greenland, and that the Polar Eskimos had come to Greenland in pursuit of the musk-oxen; therefore, their native country should naturally be looked for in a place where the musk-ox is a factor in the economic life of the population, and so he traced them back to the Boothia Peninsula and the Barren Grounds west of Hudson Bay. However, the recent discovery of an old civilization, based upon the hunting of sea mammals within the boundaries of the Thule District, makes it doubtful whether the musk-ox played such a dominating part at the time of the immigration. The point is whether this old civilization represents the remains of the direct ancestors of the Polar Eskimos, or of an earlier stratum of the population which since then has disappeared, and this question can only be answered by continued archaeological researches in the Thule District and the surrounding regions.

As the excavations fail to offer a solution, at any rate for the present, we must approach the problem of the origin of the Greenlanders by other routes and follow the suggestions offered by the distribution of various cultural elements. We are then at once confronted with the peculiar fact that there are in Greenland a number of such, which, it is true, also occur elsewhere towards the east, particularly in Labrador and southern Baffin Island, but then disappear in the central area proper, cropping up again among the Eskimos at the mouth of Mackenzie River and in Alaska, partly also on the Aleutian Islands and among the Asiatic Eskimos at the north-eastern point of Siberia. This is not the place to enter into details, but as examples may be mentioned skin dressing with urine, the use of gut skins, umiak sails, receptacles for harpoon lines, the so-called half jacket for kayaking (fig. 4), bladder darts, dip nets, eye shades, etc. The rectangular drying frame, the composite fishing hook, and the three-legged stool for ice hunting, which are all used in the western parts, are nowadays, as far as the eastern area is concerned, limited to Greenland; yet the hunting stool also occurs in finds from the now uninhabited Ellesmere and Heiberg Islands.

In addition, there are several cultural elements which decidedly have their chief distribution in a similar peripheric manner; when they nevertheless occur in the central area, they are quite sporadic and give the impression of being a kind of survivals from an earlier period. Of such may be mentioned the umiak, bird bola, fishing and sealing nets, a kind of ornamentation with plaited strips of skin, the so-called coiled basketry, etc.

Is the meaning of all this that the Greenlanders are most closely related

to the Alaskan Eskimos and that their old native country is to be found over there, towards the west? No, not at all! The explanation is quite a different one, as was proved by Therkel Mathiassen's excavations in the course of the Fifth Thule Expedition. From these excavations it appears that in the central area there was formerly a culture, entirely resembling the one which is still preserved in the two extremes of the Eskimo area, *viz.* towards the east and west. This culture was called the Thule culture after the first place, where a fairly large find was made, and it is identical with the above-mentioned old civilization in the Thule District with its hunting of sea mammals. It is characterized by dome-shaped winter houses, constructed of sods and whale bones, ruins of which have been found, not merely in several places in Greenland, but almost wherever Eskimos live



Fig. 4. Man's kayak dress,  
back view. Angmagssalik.  
(National Museum).

A short sealskin skirt is worn, hanging from the waist, the so-called "half-jacket". The head is covered with a foxskin-cap.

or have lived. From this it appears that at one time a homogeneous culture prevailed within the whole Eskimo world, and it is this which still makes the basis of the present Greenland civilization. It has undergone its chief alteration in consequence of the local development at Angmagssalik, while in the central area new Eskimo tribes with a partly different culture have interjected themselves as a wedge and broken the old homogeneity, and at the same time the Alaskan Eskimos with their fantastic dancing masks and complicated ceremonials, their lip and nose ornaments, their plate armour, their sweat-houses, etc., have received numerous impulses from a foreign and higher culture on the North Pacific coast.

Therefore, the points of agreement with the remote parts towards the west do not mean that the Greenlanders came from there, but only that the cultural basis in both regions is the same. There is no doubt that the Greenlanders have or rather, at the time of the Thule culture, had their closest kinsmen in the eastern and particularly in the central regions, and that from there they have migrated towards the north, across the archipelago to Ellesmere Island and then to Greenland. Numerous cultural details show the close connection between these localities. Thus, in the Greenland skin tents the tent poles rest in front on a rectangular frame, and a cross-piece, which evidently corresponds with the cross-bar in this frame, only occurs in the central parts. Dog sledges with "upstanders" at the back are, besides in Greenland, only used on Baffin Island, Melville Peninsula and in the Repulse Bay District. The old-fashioned Greenland soapstone pots widen from the bottom upwards, and the same holds good of the pots of the Central Eskimos, whereas the cooking vessels in southern Baffin Island and Labrador are narrow at the top. The backed bow, which fell into disuse in West Greenland as early as the 18th century, corresponded in detail with the one which can still be found between Southampton Island and the Mackenzie. The peculiar "winged" needle case is, outside of Greenland, only known at northern Baffin Island, Southampton Island and both sides of Hudson Bay. A special type of broad snow knives connects the Greenlanders with the regions round the north-western corner of Hudson Bay; a dog whip which resembled the Greenland type was used by the now extinct population of Southampton Island; the drag which, besides the ordinary float, is used in the hunting of large sea mammals, is also known from Labrador and Baffin Island, etc. The dialects which show the closest affinity to those of Greenland are spoken on Labrador Peninsula, Baffin Island, the Melville Peninsula and in the Repulse Bay District.

In some respects the Polar Eskimos show a still closer union with the above-mentioned parts than the remainder of Greenland, particularly as regards skin dressing. Contrary to all other Greenlanders the Polar Eskimos never use urine for this purpose, but only hot water, like the Central tribes.



There is thus no doubt that the Greenland culture is, in most respects, closely connected with the Hudson Bay and northern Baffin Island culture *i. e.* not that prevailing at present, but the "Thule horizon," which has now partly disappeared. On the other hand, the various degrees of connection—the Polar Eskimos more, the other Greenlanders less—seem to prove that more than one immigration has taken place, and perhaps not all from the same part. The unravelling in detail of these problems is, however, a task for the future.

**Route of Immigration in Greenland.** Whatever the details of the history of the origin of the Greenlanders, it must be considered a certainty that the immigrants have arrived from Ellesmere Island. From Jones Sound the Eskimos seem to have been able to follow three routes: (1) along the east coast of Ellesmere Island, (2) along Heureka Sound, through Bay Fiord and across the country to Flagler Fiord, or (3) further along Heureka Sound and from there to Lake Hazen. From Ellesmere Island the route naturally leads across Smith Sound to Greenland. The place where it is easiest to cross is from Pim Island to Cape Inglefield, the northern channels being generally blocked by pressure ridges and paleochrystic ice.

Thus far everything may be considered a certainty. On the other hand, it has been a much debated question what route the Eskimos followed within Greenland itself. As to this, two opposing views have been maintained. According to the one the Eskimos have gone south along the west coast, round Cape Farewell and then up along the east coast, whereas, according to the other, a group has wandered to the north of Greenland and south along the east coast. In reality the question has not as yet been finally solved. It can naturally be considered an important suggestion in support of the southern route of immigration that no ruins of houses have been found on the north coast, but, on the other hand, the meat pit at Frankfield Bay shows that Eskimos have roamed on the very coasts of the Arctic Sea and, like their Canadian kinsmen to-day, they may have spent the winter in snow huts. What is particularly in favour of the northern route is the similarity between the archæological remains from the north-east coast and the corresponding ones from the north part of the west coast. But then not even this is necessarily a proof of immigration from the north, as the immigration to the south of Greenland may have taken place at such an early date that the subsequent specialization and independent development had not yet occurred at the time, when Eskimos settled on the north-east coast.

If immigration has taken place to the north of Greenland, it must have met with the stream from the west coast in some place or other, and we may consequently ask whether it is possible to demonstrate a meeting of this kind. In this connection only two "cultural limits" can be taken into consideration, the one being the limit north of the Angmagssalik District,

*i. e.* the extremely inhospitable Blosseville Coast, south of Scoresby Sound. It has formerly been mentioned that a few southern cultural elements have made their way to the north of this line; but whether this means that the culture as a whole has come from the south, round Cape Farewell, it is impossible to decide. At any rate it is this cultural limit which should first and foremost be subjected to investigation with a view to solving the immigration problem, for if migration has taken place to the north of Greenland, it has hardly extended much farther than to Scoresby Sound.

This being so, it follows that the second of the two above-mentioned cultural limits has no great claim to be taken into consideration, although it has been warmly advocated by Schultz-Lorentzen. The limit in question divides, on the one hand, the Angmagssalik Eskimos, the most southerly Eastlanders and the related Julianehaab Greenlanders from the Greenlanders of the central and northern west coast on the other, and Schultz-Lorentzen is of opinion that the southern Eskimos, with the inhabitants of East Greenland and the Julianehaab District constitute the extreme outpost of the immigration to the north of Greenland. That the Julianehaab Eskimos were originally most nearly related to the East Greenlanders and that, at the destruction of the Eastern Settlement of the Norsemen, they came from the south round Cape Farewell, is an established fact, but very likely this is only a secondary, retrograde movement, caused perhaps by climatic changes and the decay of the Norse settlements, for in the first place it is known that the southern west coast was inhabited by Eskimos before the time of the old Norsemen, and secondly the civilization of the southern part of the east coast, apart from the purely local development, is so extremely close to that of the west coast that a different route of immigration cannot be imagined for the two forms of culture.

Therefore, Schultz-Lorentzen's hypothesis is hardly tenable; even though immigration to the north of Greenland may have taken place, the Angmagssalik Eskimos must be supposed to have come from the south. Yet there is an apparant obstacle in the way of this supposition, in the fact that the dog sledge and the various ice hunting methods, which are lacking entirely or in part within the sub-arctic area of the southern west coast, are present at Angmagssalik. Ice hunting, however, is not entirely unknown on the southern part of the west coast; some methods are used occasionally in exactly the same form as farther north, while others have been adapted to the drift ice, which in the Cape Farewell districts is of far greater importance than the solid winter ice. Further, the dog sledge also seems to have been in use at one time. In the National Museum of Copenhagen there are two buckles made of antler from the Julianehaab District, one of which must undoubtedly have belonged to a dog's harness, whereas the other may be a specimen at an unfinished stage. From the same district there is also a

toy in the shape of a dog sledge, and it seems very improbable that children should have played with something which they did not know from everyday life. In this connection future travellers in the Julianehaab District ought to have their attention directed towards places whose names are derived from the word *itivdleq*, viz. a narrow strip of land which can be used as a portage for boats or as a sledge track in order to avoid a detour. In the map of the Julianehaab District there are four such places, the lengths of which vary from 8 to 24 km, and as most people would, in all probability, hesitate to carry their kayaks for a distance of 24 km across mountainous country, it is not excluded that these names designate old sledge trails. As a matter of fact, a Greenlander as far south as the Frederikshaab District possessed a sledge and five sledge dogs in 1923.

Even at Cape Farewell the natural conditions put no obstacles in the way of an Arctic phase of culture, provided that the Eskimos keep to the fiords, as they do to this day in Disko Bay and Nordost Bay, and as will be shown later on, there seem to be survivals from an early habitation in the fiords of the southern west coast. Thus, the Angmagssalik civilization may very well bear a certain Arctic impress, although this need not necessarily be considered as evidence of immigration direct from the north. It is only necessary that the habitation should have taken place before the Arctic characteristics were entirely lost on the southern west coast.

## PHYSICAL CHARACTERISTICS.

### THE ORIGINAL TYPE.

**Race Features and Geographical Environment.** The original population of Greenland are Eskimos, and just as the Eskimos were the first American people with whom the Old World became acquainted, it was in the same manner an Eskimo skull which was made the subject of the first anthropological description generally. The author was the Danish professor Jacob Winsl w (Jacques Winslow) who published at Paris, 1722, his treatise on the skull "*d'un sauvage de l'Am rique septentrionale*," viz. a Greenlander from Hunde Island. "Eskimo" is, however, first and foremost used in a linguistic, partly also in a cultural sense, and we must consequently ask whether it is justifiable to use it in physical anthropology. The answer is in the affirmative. Upon the whole the Eskimos are distinguished by so many physical characters that we are justified in speaking of an Eskimo racial type, even though this is not the same as to say that such a type prevails among all tribes who speak the Eskimo language or have an Eskimo culture.

We may regard the Mongoloid, the Negroid and the Caucasian races as the extremes of human variability. They are like the points of a triangle



enclosing the whole of humanity. There is no doubt that the Eskimos must here be placed nearest the Mongoloid angle, although this does not mean that they are, without further qualification, to be incorporated in the Mongoloid race as represented by the Chinese, Japanese, etc. There are, in fact, essential differences in build between these Asiatic peoples and the Eskimos, while, on the other hand, there are important points of resemblance between the Eskimo type and certain Indians of eastern North America, who in their turn, it is true, are also in some respects closely related to the Mongoloids. Besides, certain characters give a primitive stamp to the Eskimo type, so that certain anthropologists regard it as being closer to the original type of mankind than, for instance, the white race. Others have maintained that these features are secondary and due to the mode of living. Briefly, there are still so many possibilities for the affinity of the Eskimos with other racial types that it must, for the present, be left an open question whether we are to speak of an independent Eskimo race, or to subordinate it to a more comprehensive category. In this connection it is sufficient to establish that the Greenlanders are closely connected in race with the culturally and linguistically related tribes of Labrador and Arctic Canada, where the purest Eskimo type occurs.

Apart from the modern admixture of European blood, the Eskimo racial type in Greenland is extremely homogeneous. It is true that differences of stature have been proved, and in the northern Upernivik District, for instance, the nasal and cephalic indices are lower than in the remaining part of West Greenland, the latter corresponding with the fact that also the skulls in the Thule District are particularly long and narrow; but all this is of small importance, as the deviations are, upon the whole, so small that they cannot be used in support of a distinction between various local types.

This naturally does not mean that all Greenlanders look alike, for even in the case of pure-blooded Eskimos there are considerable physiognomic differences. One makes a more Mongoloid impression, another suggests an American Indian, and although there are few who have the pronouncedly "Indian" appearance ascribed to the heroes of Cooper, yet there are many who greatly resemble certain sub-arctic Indians (the Chipewyans, for instance), whose racial characters are less sharply emphasized. This Eskimo type has a rather narrow and oval face and a short, straight nose. In many respects it reminds one of Europeans, and this is probably the reason why it is so easily overlooked, for instance, in West Greenland, where it is apt to disappear in the great number of half-breeds, while a person of the more Mongoloid type immediately catches the eye and therefore is popularly regarded as the only genuine Eskimo. The women frequently have a more Mongoloid appearance than the men, but this is hardly due to any other

reason than that they have fuller faces and a greater aptitude for the formation of the peculiar fold of the upper eyelid which gives it an oblique look (an infantile feature!). Upon the whole we are so uncertain of our ground as regards physiognomic peculiarities that nothing whatsoever can be built upon this.

Everything considered, we are consequently bound to regard the racial type as a unity. But is it then utterly impossible that a geographical element can make itself felt in the anthropological consideration of the type? It may be difficult enough to determine the importance of external conditions in biology, but when it is a question of man, the difficulties are more than doubled, because regard is not only due to direct influence, but also to an indirect one in consequence of the fact that man has placed between himself and Nature the whole of the complicated apparatus, which is called by the name of civilization. We must admit that although the question of direct influence of environment upon the races may be traced as far back as Hippocrates, it is even now one of the most obscure problems. As a matter of fact we know practically nothing of it, and so are bound to dismiss it entirely. Very decisive racial features in the build of the Eskimos as, for instance, the above-mentioned apparently primitive characters, have been considered as being caused by adaptation to the mode of living. However, it is also uncertain whether qualities acquired in this manner can be inherited and thus develop into actual race characters, so we again find ourselves at a deadlock. On the other hand, it is certain that they may at any rate be acquired by the individual and, without obliterating the racial characteristics, yet leave a special impress upon him. To the same extent that the manner of living is dependent upon environment, this character may, therefore, be said to depend on geographical conditions.

When in the following we proceed to an anthropographical description of the population, we can only show the points of agreement between type and mode of living. The extent to which they are due to one or the other form of adaptation, and the extent to which they rest upon the natural predispositions of the race itself, must be decided in the future by anthropologists and students of heredity. As to the psychic peculiarities of the Greenlanders the reader is referred to the chapter on their intellectual life.

**Anatomical Features.** Among the many popular errors regarding Arctic conditions is also the one that the Greenlanders are particularly small of stature. It is a mistake which may almost be termed venerable because of its antiquity; for the oldest cartographer of Scandinavia, Claudius Clavus, born on the island of Fuenen in 1388, describes the Greenlanders as *pigmei parui, cubitalis longitudinis*, but the incorrectness of this view becomes doubly striking when it is compared with the low stature and the generally stunted growth which characterized the last of the Norsemen in Greenland.

The result of the measurements of height undertaken by Holm and Poulsen among the entirely unmixed population of East Greenland is as follows:

	Men	Women
Angmagssalik.....	163.1 cm	152.0 cm
Frederik VI Coast.....	160.4 „	152.9 „

In this connection it should, however, be noted that whereas the measurements at Angmagssalik were undertaken in so many cases (86) that they may be presumed to yield a sufficiently accurate picture of actual conditions, only 45 measurements are to hand from Frederik VI Coast, so that in the case of the latter we can not be certain as to the correctness of the result.

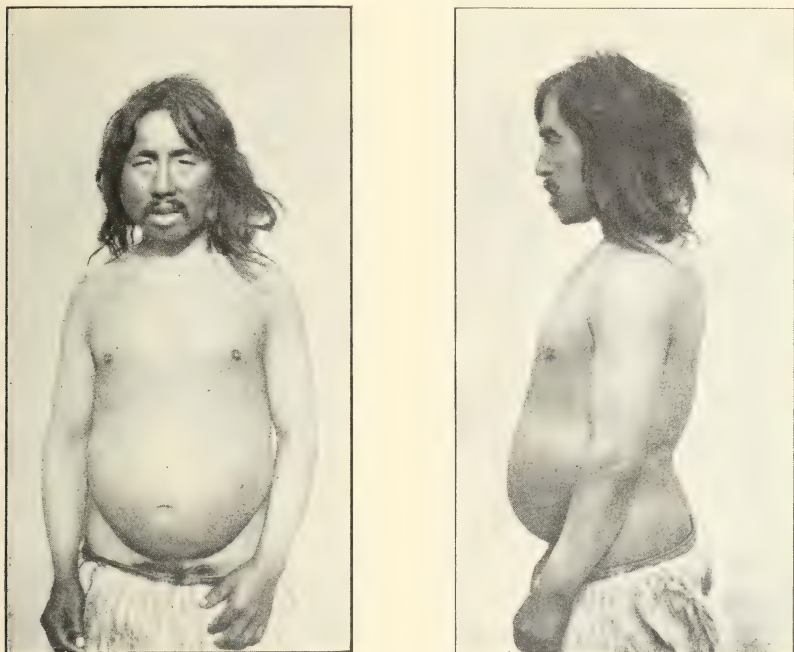
From the Polar Eskimos there are so few measurements that an average taken yields a still less reliable picture. Therefore, it should only be mentioned that the height of eight men varied between 163 and 152 cm, and of ten women between 150 and 142 cm, but whether these figures actually signify that this tribe is of smaller stature than the East Greenlanders, cannot be decided for certain.

The investigations undertaken by Sören Hansen in West Greenland give us considerable data as to the stature of the Eskimos. No less than about 2500 individuals, males and females of different ages, have been measured. Here we are, however, no longer dealing with a purely Eskimo population, for in the course of time considerable intermixture with European blood has taken place. This would *a priori* be supposed to exercise its influence on the stature, and it also proves that the mean height of persons with a Danish father or grandfather, for the men, and particularly for the women, is a few centimetres above the mean height of the remaining part of the population. Still, these individuals are few in number as compared with the total figure, so few indeed as hardly to influence the final result, and Sören Hansen emphasizes the fact that the purely Eskimo element, which forms the basis of the population of Greenland, has hardly been much lower of stature than the Greenlanders of the present day. For the whole of the west coast the mean height is 162 cm for men and 152 cm for women or, in other words, no essential difference from the population of the east coast. If the mean height is computed for the individual districts, it appears that it varies greatly; thus for men it is between 158 cm at Egedesminde and Ritenbenk and 169 cm in Nordost Bay. No rule has been found to cover this variation, which seems to be entirely accidental and is presumably only due to the fact that certain families predominate in various places and leave their special stamp upon the sparse population. This corresponds with what is quite clear from a physiognomic point of view.

The remarks on the height of the Greenlanders may be summarized as follows: wherever a sufficient number of measurements are to hand, the



mean height is between 160 and 165 cm for the men, while the women keep somewhere near 152 cm. These figures entirely correspond with the results of similar investigations among the Eskimos of Barren Grounds, the North-West Passage and the north coast of Alaska, and it is a stature which cannot possibly be characterized as small. In anthropometry only such peoples are characterized as small where the average height of the men is below 160 cm, as, for instance, the Japanese, Siamese, Lapps and many South-American



Figs. 5—6. A Polar Eskimo, about 40 years of age. (Steensby).

Indians, not to mention Bushmen, Negritoes, etc. The average height of the Greenlanders corresponds with the one prevailing in western France and large parts of Italy and Spain.

The Greenlanders are, on an average, powerfully built and plump, without being fat (figs. 5—6). In West Greenland the length of the trunk, of men as well as of women, is a little below 39 per cent of the total height of the body and is thus comparatively considerable. The chest is very broad and powerful. The average chest measurement of the Angmagssalik Eskimos is 837 mm for men or more than 51 per cent of the height, whereas in Denmark the chest measurement of healthy and well-built individuals only constitutes half of their height. The mammæ of quite young women are frequently conical, but quickly begin to drop and soon come to resemble two long and flabby bags.

It is probable that the mode of living has contributed towards the de-

velopment of the chest, and a similar influence can be traced when studying the limbs. The arms are very powerful and muscular, as is to be expected in a people to whom rowing and paddling, throwing of harpoons and scraping of skins are daily occupations. Still, the arms are not particularly long. When a Greenlander extends his arms to the sides, the distance between the tips of his fingers is almost the same as his height. The same is the case among Europeans, but the shoulder breadth of the Greenlanders being greater, their arms must be shorter than those of white men, and this in spite of the fact that the same factors which make them powerful are supposed also to make them longer. The hands are small, well formed and plump.

The legs, like the arms, are rather short. In West Greenland the length of the legs (determined by measuring in a sitting posture) averages 78 cm for men and 72 cm for women, or 48.1 per cent and 47.4 per cent, respectively, of the total height. Perhaps the constant use of the narrow kayaks, as far as the men are concerned, has checked the development of the legs. At any rate it is easily observed that the muscles of the legs are weakest in those parts of the country where the kayak is used all the year round. The feet, like the hands, are small and prettily shaped.

The shape of the head is so characteristic that anthropologists who have once had their attention directed towards its peculiarities will always easily recognize the type. Winsl w had already caught the most characteristic features; Bessels investigated a hundred skulls from the Thule District, and during later years no less than 380 specimens from all parts of Greenland, now for the greater part kept at Copenhagen, have been made the subject of minute investigations in C. F rst's and Fr. C. C. Hansen's standard work on *Crania Groenlandica*.

The skull is generally large and heavy and is distinguished by a definite orientation of the morphological points in the sagittal plane, so that there is a typical mean value for every angle and every linear dimension. A diagram showing the average type and drawn by Fr. C. C. Hansen, who pointed out this important fact, is reproduced in the work quoted on p. 209. Seen from above the long and narrow, ovoidal or ellipsoidal form of the brain case is immediately striking. This form is due to the fact that the brain case is greatly compressed from the parietal eminences until about the occipital region, which forms a distinct *tuber occipitale*. The dimensions of the brain case, as expressed in figures, yield a mean length of 185.4 mm and a mean breadth of 133.2 mm. Even though the length is considerable it is the small breadth particularly which determines the shape. The cephalic index, which shows the breadth in percentage of the length, is for male crania 70.7, for female 72.2. They are thus pronouncedly dolichocephalic, and only 15.5 per cent of all crania <sup>1</sup> are meso- or brachycephalic. For com-

<sup>1</sup> Here, as well as in the following, this means the total number of skulls investigated by F rst and Fr. C. C. Hansen, also including those investigated by Bessels.

parison it may be mentioned that in Sweden, where the population is regarded as distinctly dolichocephalic, and, further, in the most dolichocephalic period, 34 per cent were meso- or brachycephalic. The height of the cranium is great—average 100.1 mm—and the length-height index is 73.6; more than half of the total number of skulls should be classified as orthocephalic and more than a third as hypsicephalic.

The most striking peculiarity of this cranium is, perhaps, its roof- or crest-shaped form (fig. 7), in that it rises strongly in the direction of the



Fig. 7. Side and front view of Eskimo skull from Angmagssalik. (Normal-anatomical Museum of the University).

Notice sagittal crest, high orbits, narrow nose and heavy jaw.

sagittal seam. The upper temporal lines are very elevated so that the distance between them becomes small, and it cannot be denied that this, together with the crest-shaped brain case, may give the impression of something "brutish", something which bears a very faint resemblance to the gorilla and its huge muscular ridges. Nevertheless, it is doubtful whether these characteristics may be regarded as primitive, as they do not occur on the really inferior skulls from the ice-age belonging to *homo primigenius*, and perhaps, like the generally compressed shape of the skull, they are only caused by secondary adaptation in consequence of the enormously developed masticatory muscles. The very opposite of primitive is the capacity, which, it is true, varies very much, but on an average it is great, viz. 1526.8 cubic centimetres for male and 1435.5 cubic centimetres for female skulls. Nearly 20 per cent of the skulls have a capacity of 1600 cubic centimetres or more.



Seen from the front the cranium, at a superficial glance, may also seem to have something primitively "brutish" about it. Under a narrow forehead two enormously developed zygomatic arches project, and the lower jaw is distinguished by a massiveness and strength which gives rather a sinister effect. But here also it is as if the primitive features show a tendency to vanish on closer inspection; for although the forehead is narrow, it is at the same time high, and both the superciliary arches and the glabella are but faintly marked in contradistinction to really primitive crania. Nor does the lower face project greatly as on the latter, for 62 per cent are orthognathic, and of the remainder none are strongly prognathic. The facial angle, measured between the Frankfort horizontal plane and the nasion-alveolar line<sup>1</sup>, in most cases lies between 80° and 87°. Thus, apparently primitive features are combined with highly developed ones, and we are at any rate bound to make allowance for the possibility that an extreme specializing, *viz.* the same tremendous development of the masticatory muscles which may have left its impress on the brain case, may perhaps also have given rise to the facial peculiarities. In full accordance with this, Knowles demonstrated a characteristic shallowness of the glenoid cavity in the case of Eskimos, a feature which recurs with the anthropoid apes, but which with the Eskimos is rather due to the excessive use of the masticatory organs.

In spite of its considerable breadth, caused by the zygomatic arches, the face is by no means particularly broad in proportion to the height. Its mean index is 87.2, and while 40 per cent of the skulls are mesoprosopic, almost 32 per cent are leptoprosopic. The orbits are large and make a somewhat rectangular impression. In consequence of their considerable height they also have a high orbital index, whether the breadth is measured as the maximum or as the dacryon breadth. Correspondingly high orbits are found with many Mongoloid and American peoples, and for that matter also with children. The nasal bones are, perhaps, the most peculiar characteristics of the face. When we call up the popular picture of a "flatnosed Eskimo", only very few people have any idea that the Eskimos, through the investigations made of their skulls, have proved to be the most narrow-nosed people known. Besides, more frequently and to a greater extent than with any other race, the nasal bones are reduced, particularly their upper part. The mean breadth of the nose is only 5.37 mm, the nasal index 42.99, and almost 83 per cent. of the skulls are leptorhine. Also the narrow nose has been connected with an exaggeration of the masticatory muscles.

The same specializing is supposed to explain the massive shape of the lower jaw with the strong muscular attachments and the hinder part of the mandibular angle, which frequently tends strongly outwards, the latter in its turn causing a great biangular breadth, although the dental arch in itself

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<sup>1</sup> It is to be regretted that the sub-nasal prognathism is not computed independently.

is narrow. The mental portion is high, and there is a distinct chin projection. The mandibular ramus is very broad, and in no less than 85 per cent of the jaws investigated there is, on their inner sides, a curious bone formation, a mandibular torus which, however, has also been identified in Ostyaks, Lapps and, in a few cases, in Scandinavians. Even at an early age the teeth are worn so strongly, *inter alia*, by the chewing of skins and thongs, that they only stand out a little above the alveoles.

We have hitherto only spoken of crania. The shape of the head of the living Eskimo is naturally closely dependent upon the structure of the skull and reflects its peculiarities. We meet with the crest of the brain case and the broad jaws expressed in the "pentagonal" shape of the face, but, on the other hand, we do not get quite the same dimensions owing to the presence of the soft parts. Sören Hansen gives the following summary of the cephalic index with living Greenlanders:

	Men	Women
Upernivik District .....	74.9	72.2
Nordost Bay.....	77.2	76.5
Disko Bay.....	78.0	76.8
Agto—Holsteinsborg .....	77.8	77.0
Sukkertoppen—Godthaab.....	77.0	75.9
Fiskenæs—Frederikshaab .....	76.8	76.4
Julianehaab Bay .....	78.1	76.8
East Greenland .....	76.9	75.6

When compared with the corresponding index on the crania these figures show a rather considerable difference which, however, chiefly applies to the men. Whereas the cranium is strongly dolichocephalic, the soft parts alter the dimensions to such an extent that the living Greenlanders can only be characterized as mesocephalic with a tendency towards dolichocephaly.

The nasal index has undergone a corresponding change. The dimensions of the nose, of which, by the way, it is very difficult to obtain accurate measurements, vary considerably, but the following indices may be given as the average:

	Men	Women
West Greenland .....	76.2	77.3
East Greenland .....	69.2	72.9

Therefore, whilst the crania are leptorhine to a very large extent, the living Eskimo should be described as mesorhine. It is rare, even among quite pure-blooded Eskimos, to find noses so flat as those of the Mongoloids. On the contrary, the Eskimo nose is generally well shaped and rather outstand-

ing. Short and straight noses are common, but convex noses are by no means rare.

The fact that Eskimo faces frequently give the impression of being flat, though never as flat as those of the Mongoloids, is principally owing to the thick subcutaneous layer of fat which particularly shows itself in the eye region. In very pronounced cases it almost wipes out the line between the eyebrow and the upper eyelid, so that the whole of the eye assumes a flat appearance. At the same time the upper eyelid forms a downward fold across the inner corner of the eye, more or less concealing the caruncle, the result being the so-called "Mongolian" eye, which superficially gives the impression of being oblique. This formation, however, is never so pronounced with the Eskimos as with many Mongoloid peoples, and even among quite pure-blooded Eskimos it is by no means all persons who have it. Nor is it, I believe, superfluous to observe that this feature is not limited to Mongoloids and Eskimos, but has also been observed in many American Indians, perhaps also in Hottentots and indeed even in Europeans, where it is common in infants. The value of the Mongolian eye as a race character is thus somewhat doubtful.

The lips are fuller than those of white men, but never even approximately as full as with negroid peoples.

The hair, which is rarely spoilt by any head-dress, is abundant, and baldness merely caused by old age is rare, though far too common among women who still dress their hair in the national way and, consequently, pull it back tightly from the temples. The hair is nearly always black and rather coarse and lank; nevertheless, it seems as if faintly wavy hair is not always a sign of the admixture of foreign blood. That the hair of the Angmagssalik women is frequently more brown than black, is perhaps merely due to the fact that they wash it daily in urine and so unconsciously decolour it. On the other hand, it seems a reasonable supposition that brownish hair may occur in cases where both European admixture and artificial decolouration are out of the question. Although "blond Eskimos" have acquired a somewhat undue fame, instances of "blond" persons have been reported from several regions of the Arctic.<sup>1</sup>

The growth of beard and of hair in the axillæ and pubic region is decidedly less than among Europeans, but like so many other things the lack of beards has formerly been greatly exaggerated, as far as the genuine Eskimos are concerned. In many cases the absence of beards was in the olden times simply due to the fact that the hairs were plucked out, the same circumstance which has led to the Indians having been called beardless. If the beards are

<sup>1</sup> By the way, it may also be noted that when Chateaubriand in *Les Natchez* wished to give a characteristic picture of a Labrador Eskimo, he spoke of "*sa barbe rousse, se joignant à ses cheveux noirs . . .*"



left in peace even pure-blooded Eskimos and many Indians have very creditable beards.

While the colour of the iris, with pure-blooded persons, is always a lighter or darker shade of brown, the colour of the skin is dependent both upon the sex of the person in question, the part of the body under inspection, and the time of the year when the investigation takes place. In spring and summer, when the sunlight is reflected with violent intensity from snow-fields and ocean, the faces and hands of the men assume a tanned, sunburnt colour which, however, again disappears during the dark season. The complexion of the women is always fairer than that of the men. It may be said as a general rule that the colour of the skin in the uncovered parts, for instance the upper part of the arm, is yellow brown or light olive. Both areolæ mammæ and the external genitalia are strongly pigmented, sometimes actually bluish. On newly born children there is, below the small of the back, a variously shaped, sometimes rather large spot of the same bluish colour. It was observed by Saabye as early as the 18th century, but being written in Danish his report was consigned to oblivion, and only when, a hundred years afterwards, a similar spot was observed on Japanese children, it attracted general attention as a so-called "Mongolian spot." It is, however, with this as with the "Mongolian eye:" though most pronounced among the Mongoloids it is by no means limited to them, but also occurs with American Indians, Polynesians, and in a few cases with Europeans.

**Physiological Features. The Growth.** The physiology of the Greenlanders is far less known than their anatomy. It is a widely spread conception that their senses are keener than those of the whites, but of that nothing is known, for what we, for instance, ascribe to a keener sight, is frequently due to a sharpened power of observation rather than to the power of vision. The only sense which presumably is more developed with them than with us is the smell. Nor do we know much of their metabolism, as the experiments undertaken in West Greenland by August and Marie Krogh rather aimed at general physiology than at racial peculiarities. While the total amount of energy is normal, the diet of the Greenlanders is peculiar because of the great quantities of proteins and fat and the very small quantity of carbohydrates, even after the introduction of bread, sugar, etc. The fact that seal liver and whaleskin (*mátak*), which are both rich in glycogene, are such favourite dishes among the Eskimos, is presumably due to the organic need for carbohydrates. The blood soup, which also is a favourite dish, yields a far more universal proteinous nutriment than meat itself. The immoderate drinking of water which prevails among the Eskimos may also have some bearing upon their highly specialized diet which, however, cannot be proved to exercise a harmful influence upon their health.

Growth takes place in the same manner as in the case of European children. While from their eleventh to their fourteenth year European boys

are slightly smaller than girls, and then again take the lead, the period when the boys are smallest in West Greenland lasts until their sixteenth year; but this difference is probably only due to the fact that the boys here must take part in hard, bodily work at an early age which stunts their growth a little. Puberty is said to set in at a somewhat earlier age among Eskimos than among Scandinavians; but the difference is not great. From an investigation of a hundred West Greenland women of mixed blood it was proved that 88 per cent had their first menstruation between the age of fifteen and seventeen; later on Bertelsen arrived at the figure of fifteen years and five months as an average for 127 women in the Ūmánaq District; of these 42 are put down as being of unmixed Eskimo race, and for them the average is fifteen years and six months. If it is at all possible to attach any weight to results derived from such circumscribed material, this delay seems rather to be due to social-hygienic conditions. As to the duration of life see pp. 25 seq.

Without entering into the details of intra-uterine growth it should be mentioned that the most generally known congenital deformities have also been observed in Greenland. Meldorf has collected examples of imperfect closing of the foetal fissures of the face, imperfect closing of the cavities of the cerebrospinal axis, cyclopy, hermaphroditism, *atresia ani*, faulty or defective structure of the extremities, etc.

**Physical Culture.** The Greenlanders have never practised actual bodily disfiguration, as have, for instance, the Alaska Eskimos, who perforate their underlips and nasal septa. The only approach to such among the Greenlanders was the tattooing, which was, furthermore, not carried out in the Thule District, but in heathen times was common along the west coast and can still be seen on old women in East Greenland. The tattooing of the men was very limited, whereas all women at puberty had to subject themselves to this painful process which was carried out by passing a needle and thread, covered with soot, under the skin; the face principally, but also the arms, legs and mammæ were ornamented in this fashion.

In olden times the men, as a rule, wore their hair long, as is still to be seen in the Thule and Angmagssalik Districts; in the latter place a kind of hair halter embroidered with beads was used to prevent the hair from falling down into the eyes. In the west coast settlements and other more civilized places the men always wear their hair short. In remote places it is more often combed evenly down on all sides and cut off in a line over the eyes and at the nape, so that it forms a kind of skull cap. This is, in all probability, an old manner of dressing the hair. The hair was also sometimes worn short on the east coast, but then for superstitious reasons it had to be cut with a knife, the edge of which was made of sharks' teeth.

In many places the women still follow the old fashion of gathering their hair in a knot, but whereas the Polar Eskimo women arrange it rather loosely, the knot in other places is by preference made to stand upright.



Fig. 8. Angmagssalik women with tattoo marks on breasts and arms. (Thalbitzer).

For this purpose the hair is mercilessly dragged back from the temples, which causes a premature and rather repulsive baldness. The knot is tied with coloured ribbons, by preference of silk, and after the beginning of coloniza-



tion the custom of using distinctive colours developed on the west coast; black for widows, blue for married women, red for young girls and green for unmarried women with children. However, it is now becoming more and

more common to braid the hair into two braids and coil them round the head.



Fig. 9. Angmagssalik Eskimo with hair halter.  
(J. Petersen).

In the olden times in West and East Greenland, all washing took place in the urine tub, urine possessing excellent qualities for dissolving grease; but nowadays very few women will wash their hair in urine. It cannot be denied that the cleanliness of nearly all Greenlanders, even now, leaves much to be desired, but the indignation so often expressed on this point is rather cheap. One must, in reason, make allowance for the great difficulties for obtaining water during the greater part of the year, and even on the warmest day the sea is too cold for bathing. Furthermore, anyone who is familiar with the almost incredible filth of the entirely uncivilized

Eskimos in Arctic Canada must admit that Greenland undoubtedly has made very considerable progress since its colonization. Apart from this it is in Greenland as in Europe: the greater poverty the less cleanliness. It is my impression that the Polar Eskimos—who are all well-to-do—are more cleanly than most West Greenlanders.

#### MIXTURE OF RACES.

**Degree of the Admixture.** The population of Greenland is nowadays very far from consisting of pure Eskimos. Gradually a strong admixture of European blood has taken place, naturally first and foremost Danish, while the possible Dutch, British and American contingents have been so small that they need not be taken into account. The distribution and degree of this admixture principally depends upon the history of the country which, in its turn, is closely bound up with its geography. Therefore, it is apparent that the two places where an isolated situation and unpassable masses of ice have combined to keep away the whites as long as possible, *viz.* the east

coast and the Thule District, are those where the purely Eskimo population is now to be looked for.

The mixed race, on the other hand, is decidedly in the majority on the easily accessible west coast, which was colonized at an early period. Whether the old Norsemen have intermarried with the Eskimos to any large extent, a theory which has frequently been propounded with a view to explaining the destruction of the Eastern Settlement, it is impossible to determine. Anthropometry cannot decide the question. It is, however, extremely probable that the population has absorbed a quantity of European blood through the British and Dutch whalers of the 18th century, and possibly before then through the Basques. Still, the mixture of races is, in the first place, a result of the colonization. In by far the greater number of cases it has taken place in a legitimate manner, through marriages between native women and Danish artisans, sailors, and managers of outposts, and it is still going on, though it was strongest during the first century and a half after colonization, when the whaling trade demanded the presence of a much larger number of Danes than at the present day.

The degree of the admixture is, however, different in various places. In the isolated Julianehaab District, where the ice-pack prevents the ships from calling during the greater part of the summer, the mixture (apart from what is possibly due to the old Norsemen) is very small, and, besides, fresh Eskimo blood has been infused into the population in the course of the 19th century by repeated immigrations from Frederik VI Coast. The mixed element in the Julianehaab District is estimated at 12 per cent of the inhabitants. In the same manner it is not surprising that there are many unmixed Eskimos in the other remote boundary district of the west coast, *viz.* Upernivik, where civilization did not gain a foothold until a comparatively late period, but for all that their number is certainly much smaller than at Julianehaab. However, there is also a considerable, very little mixed population, as it were, in the very centre of the west coast, *viz.* in the southern part of the Egedesminde District, the natural conditions of which, as already mentioned, cause a high degree of isolation. A conscious striving to ward off the admixture of foreign blood has made itself felt at the former Moravian missions in South Greenland, but these missions were so few in number that they have not, upon the whole, had any great influence on the intensity of the admixture.

The largest half-breed population is, perhaps, found round Disko Bay, where it will now be very difficult to find a person who cannot somewhere in his pedigree muster one or more European ancestors. This is due to the fact that, in former days, the said region was the centre of the whole whaling industry, which necessitated the presence of a large number of Danes, who frequently settled there and chose their wives from among the native population. Formerly, in the census of the population of Greenland, an official

distinction was made between unmixed and half-breeds, but several years ago this distinction was given up as impracticable.

**The Mixed Types** have never been made the subject of rational investigation, and nothing is known as to which of the Eskimo qualities have been recessive and which have prevailed. In places where the population is greatly mixed, it is possible to come across persons, who, at any rate at first sight, do not betray their Eskimo parentage. As a rule Danish blood means an increase of the stature, but in this respect also improved social and hygienic conditions make themselves felt. Further, the growth of beard becomes stronger, and the pigmentation fainter, in the general complexion as well as in the hair and the iris. It is frequently the broad jaws and a slight tendency towards "Mongolian eyes" which first lead to the discovery of Eskimo blood, and from that there are all stages of transition to the entirely unmixed type.

Without entering into the purely psychological details of the matter, it should be mentioned that experience shows individuals of mixed blood to be superior to the unmixed Eskimos by a greater susceptibility and power of adaptation, as well as by greater energy and a wider outlook in economic matters.

## HABITATION AND CLOTHING.

### *INHABITED PLACES.*

**The Distribution of the Inhabited Places** within the country seems to depend upon the history of the people, in so far as they are most numerous along the sub-arctic coasts. The influence which historical factors exercised appears also in Melville Bay and on Frederik VI Coast (see pp. 17 seq.). On general principles it will, however, appear everywhere within the individual region that the situation of the dwelling places is principally determined by geographical conditions. It is mainly from the sea that the Greenlanders procure their food, and it is also the sea which opens roads of communication between them, far more so than the practically inaccessible mountains of the coast fringe outside the inland ice, and so it is only natural that the sea should be the decisive factor in the choice of dwelling places. Only temporarily and under quite special conditions, for instance when deer hunting, will a Greenland family settle away from the coast.

Even at the sea the means of existence for the native population are only present in some localities. By preference many families live together in such places, for he who will stand alone in this country must be strong of will and spirit, qualities which are rarely found, and not least among primitive people. Thus we are able to speak of concentrated habitation in Greenland centring round certain places, though we should not attach quite the same meaning to the term as in the case of an agricultural society.



It is, however, another question whether the habitation is permanent, *viz.* continually in the same spot. A permanent habitation in the Arctic would be difficult enough for European civilization, if it had to be entirely self-supporting. The old Norsemen had not the strength to be so, and still there is no doubt that with modern resources it could be done in certain parts of South Greenland. The case of the Eskimos is different. Directly dependent upon their surroundings, they must follow the yearly fluctuations of Arctic nature. The chances of hunting in winter are entirely different from those of the summer and occur in other places. A certain regular shifting between the habitations and a differentiation in the types of dwellings is, therefore, a constantly recurring feature of the original Eskimo community. The only exception as regards migration is formed by certain places in the Thule District, where, as it were, winter conditions prevail all the year round. These yearly hunting expeditions will be dealt with in another context; here it need only be mentioned that they are not entirely lacking in any of the districts of Greenland, even though they have decreased greatly both as regards the area covered and the time spent in them, and consequently there is everywhere a more or less extensive shifting according to the season.

Besides this type of periodicity there has certainly always been another, though less regular and extending over longer periods, the cause of which is to be looked for in a general changing of hunting conditions. When hunting has gone on for such a long time in a certain region as to make it more or less empty of game, the population have moved their dwelling places to a better locality. In this light we must regard the modern removal to Melville Bay, both from the north and the south, as well as the settlements of the Angmagssalik Eskimos on either side of their own district, and again the recent removals to Scoresby Sound is only a further following up of the track of the old tendency. Also within narrower limits the dwelling places have changed. In the Thule and Angmagssalik Districts there are still several dwelling places which are occupied one winter and lie deserted the next, while others have sprung up in their place. This is no longer the case in West Greenland, but in some regions it still happens that an old dwelling place is abandoned and another established.

A shifting of habitation, but of another kind, is the one which takes place at the present time from sealing grounds to good fishing grounds, as is to be observed in several localities in West Greenland. This shifting may comprise the winter dwellings proper as well as the summer camps. Even though it is extremely rare that a dwelling place is established exclusively with a regard to fishing (as is, however, the case with Nûgârssuk on Agdlu-itsoq Fiord), the dwelling places where fishing forms the actual basis of existence have at any rate attained greater importance from an economic

point of view; this, for instance, applies to some localities in the Jacobshavn, Holsteinsborg, Godthaab and Julianehaab Districts.

Finally, when considering the permanency of the dwelling places, we must not forget that even though they themselves remain the same, this does not necessarily apply to the inhabitants. In the Thule District each region has its own hunting specialities, and the family which for a couple of years has profited by the narwhals and walruses of Inglefield Gulf, perhaps for one or two winters feels attracted by the bear hunting in Melville Bay. Thus dwellings not infrequently change hands, and as they do not belong to any individual person, the right of property puts no obstacles in the way of this development. Similar conditions prevail at Angmagssalik, and in former times the same was, to a certain extent, the case on the west coast. Here long trading expeditions were undertaken which carried the Southlanders far north, and several families from those parts always wintered in some place or other along the central coast.

On the west coast the unstable character of habitation has now been greatly reduced, and this is true both of the unstableness due to the seasons and of that due to the voyages. During the early period the missionaries consciously aimed at such a concentration, which is hardly to be wondered at considering their pedagogical points of view. On the other hand, there is no doubt that the Moravian Brethren carried their claims of bondage far beyond all reasonable bounds, so as greatly to shake the economic foundation of their communities. Later imported timber, Danish furniture, and other requirements of a growing civilization have made the Greenlanders less inclined to move, so that on the west coast migration now practically only takes place within the boundaries of the district.

The geographical requisites of this concentrated but unstable habitation are first and foremost the necessity of food and blubber for lamps, or in other words, the hunting of sea mammals and especially seals. Although the same species of seals are distributed almost over the whole of Greenland, the proportion of their quantity changes, and so also their importance to the population. On the west coast there is a large northern area from Humboldt Glacier as far as and including Disko Bay, where the fiord seal is decidedly the most important animal, and to a certain extent this is also true of the Angmagssalik District on the east coast. The fiord seal prefers the deeply incised fiords, under whose cover of ice it remains during the winter. Its migrations are also less regular than those of the other species, and only the younger animals are supposed to leave the fiords during part of the summer.

On the central west coast the saddleback takes the precedence. It arrives in spring on the south-west coast and migrates northwards according as the ice floe breaks up. In summer it leaves the country simultaneously with the caplin shoals, but it returns in September and again passes along the

shore, disappearing once more in February or March. Deep straits and sounds through which the regular passage takes place are important hunting grounds for this species, whereas it is never to be found under firm ice, as it does not have breathing holes.

Farthest towards the south is the bladdernose area, which only comprises Julianehaab Bay, although the Angmagssalik District has some connection with this as well as with the fiord seal area. The bladdernose generally keeps far away from the shore in the huge quantities of drift ice which, throughout the summer, block this part of Greenland. It appears both in spring and in late summer, but there are also other seals together with it in the pack. The hunting of the bearded seal, for instance, was in former years of great importance here.

Hunting conditions vary, partly owing to the habits of the seal species, but partly also because of other factors which are independent of these conditions. This particularly applies to the occurrence of solid ice, holes in the ice, drift ice, and open sea. From north to south as well as from the heads of the fiords to the outer coasts, these conditions will change, all of them exercising a decisive influence on the distribution of the dwelling places. This gives rise to various types in the distribution of dwelling places, almost corresponding with the above-mentioned phases of culture generally.

The conditions for profitable sealing being fulfilled, other less important considerations may make themselves felt; for instance, access to the hunting of walrus in the Thule District and on the central west coast, of narwhal and white whale, which in winter live along the southern west coast and in summer migrate towards the north; in former times also of the bowhead whale, now, however, especially the possibilities of fishing (Greenland halibut, Norway haddock, and cod). Bears also play a certain part in the Thule, Upernivik, Julianehaab and Angmagssalik Districts, whereas deer hunting does not seem to have influenced the choice of winter dwelling places.

The dwelling place should also, if at all possible, comply with certain topographical conditions. It is frequently situated on a foreland or an island so that there is a large hunting area on all sides, and further a possibility of landing on the lee side in gales. Still, it is not common to have the dwelling place on the extreme point of the foreland, which is washed by the foaming surge of the open sea, and where the winter ice in the northern districts is packed close in an impassable chaos, if it forms at all. Most of the dwelling places face south, frequently also east or west, but rarely north. Another topographical condition is the access to fresh water, and the Greenlanders naturally prefer the neighbourhood of a lake, where it is only necessary to keep a hole open throughout the winter. In some places in the north they use the ice of frozen-in icebergs, but otherwise old sea ice can also be used, as the salt is gradually washed out. Finally, some importance must be



attached to the possibilities of building houses. The poor material for houses at Inglefield Land has some bearing upon the fact that it is so rarely inhabited by Polar Eskimos. For the old dwelling places, where the houses were half buried in the ground, it was a necessity that they were laid in places with loose soil, *viz.* till or raised beaches. Only at a later period, when the houses were built entirely above the ground, could the dwelling places be founded on the solid rock.

**Types of Distribution.** The high-arctic type belongs in the Thule District, where fiord seal and walrus, to a certain extent also bearded seal and bear, determine the situation of the dwelling places. Where the ice lies smooth and unbroken, without being pressed into ridges and fields of hummocky ice, the seals have their breathing holes, and in spring they here creep up on the ice in order to bask in the sun. The walrus is to be found under young ice which it can break through by means of its hard and solid skull, and in Melville Bay the bear undertakes regular wanderings between the open water and the glacier. A smooth floe, which also offers the best conditions for sledging, is consequently essential to the site of the dwelling places.

In this, the most northerly part of inhabited Greenland, ice forms not only in the large bays, but also in many places far off the shore at the outer coast. Consequently, there are dwelling places in both localities, but most of them centre round Inglefield Gulf and its two outlets, Murchison and Whale Sound, and it is certainly not without reason that one of the dwelling places there is called Neqe, "meat." The large Wolstenholme fiord system farther south is much more sparsely inhabited, because there the hunting is more uncertain. The chief animal caught is walrus, and the floe between Saunders Island and Dalrymple Rock is of decisive importance to the hunting, but ice conditions are frequently unfavourable. On the other hand, the Thule trading post, which was established on account of its easy access to the sea, has given to Wolstenholme Fiord a prominent position within the district. Both north and south of the actual habitation centres along the fiords, there are dwelling places in the immediate vicinity of or at the outer coast itself, as for instance Etah and Anoritôq in Inglefield Land, several dwelling places in the region round Cape York, as well as Tugtuligssuaq far to the south in Melville Bay at Cape Seddon. Here also the ice lies solid and the hunting of bear and seals which have crept up to bask in the sun is the chief reason for fixing the habitation.

The Arctic type of distribution, which prevails from Melville Bay in the north as far as, and including, Disko Bay in the south, is not sharply divided from the preceding one. The fiord seal is still the chief game, and the requisites of the dwelling places are in several respects the same. The occurrence of other animals only exceptionally influences the positions of the dwelling

places, as that of walrus and bearded seal at Nûgssuaq, and of bear in the direction of Melville Bay.

Only in the most northerly Upernivik District there is stationary winter ice as far out as the outer islands, and this circumstance makes the essential difference from the high-arctic type. On the other hand, in these parts also the floes of the great bays have the power of attracting the population. Thus the greatest centres are the regions round Nordost Bay with its two branches Karrat and Ũmánaq Fiord, as well as the country round Vaigat and Disko Bay, whereas Disko Island itself has no large population. It is still here that the smooth ice and the ice hunting constitute the real base of habitation, even though in Disko Bay other conditions begin to make themselves felt. In certain cases the dwelling places cluster round the icefiords with their abundance of fiord seals, as is seen at Karrat, Qarajaq, Torssukátak and Jacobshavn Icefiords. However, it is often impossible to lay the dwelling places in the interiors of these icefiords, where iceberg is packed against iceberg, and the Greenlanders then keep to their outer parts.

As distinguished from the high-arctic area, the open water in winter here begins to be a factor which it is necessary to take into account as a condition of hunting. It occurs partly in icefiords where the motion of the glacier produces open leads in the ice, and partly at rapids where the tide keeps large holes open. Round such places the seals will gather. If Upernivik lacks the actual fiords with large floes of smooth ice, it has in return the rapids in the innumerable sounds, and a very large number of the dwelling places right from the north of Tasiussaq to South Upernivik are situated in the neighbourhood of large rapids. In the northern part of the Ritenbenk District the Greenlanders at Sarqaq, Qeqertaq and other places are largely dependent upon the rapids near the mouth of Torssukátak Icefiord, and like Qarajaq Icefiord the latter is also one of those places where the motion of the glacier produces open water with good hunting possibilities.

A transitional stage between the Arctic and sub-arctic types is the habitation in the Egedesminde and Holsteinsborg Districts. The fiord seal still plays a part, though far less than towards the north, and the saddleback, perhaps, now ranks first as the chief hunting object. This is the reason why the inhabitants shun the long and narrow fiords and keep to the island belt where the saddlebacks pass. In the Egedesminde District, Imermiut and a few other dwelling places are so far removed from the bay that conditions, as far as the ice cover is concerned, approach the Arctic stage, and though in Holsteinsborg District the dwelling places are more definitely founded with a view to the passing of the saddleback, they have also easy access in winter to the fiords and the fiord seals. Now that the latter have greatly decreased in number, the Greenlanders in the fiords of Holsteinsborg are in winter mostly restricted to the fishing of Norway haddock and fiord cod.

In the Egedesminde District the rapids, however, have an importance which is only surpassed by those of the Upernivik and Angmagssalik Districts. They are to be found far from the outer coast, on the inner side of large islands as in Nivâq Sound or in a fiord like Arfersiorfik, and in both of these localities they constitute the basis of existence of several dwelling places. But they also occur in large quantities in the wealth of islands and skerries which characterize the outer belt of islands where most dwelling places are situated. Besides, it is between the islands that the spring and autumn migrations of the saddleback take place. Most of the dwelling places in the two said districts are, therefore, situated within the island belt, as a rule in such a manner as to be sheltered by the extreme islets, as the Greenlanders are then able to carry on sealing in comparatively smooth waters, even though the outside sea is rough.

A very few dwelling places are, however, found on the outermost islands. They begin as far north as Disko Bay with Kronprinsens Islands and Hunde Islands (the former from an administrative point of view belonging to the Godhavn District); farther south Vester Island is situated, and in the Holsteinsborg District the dwelling places of Isortoq and Itivdleq belong to the same group. Here there is only very little solid ice, and it is easily understood that few Greenlanders excel the population of Vester Island in the matter of kayaking. The situation of these dwelling places indicate a close relationship with the sub-arctic type of distribution.

A transitional form between Arctic and sub-arctic distribution, which is quite similar to the one described above, is to be found on the east coast within the Angmagssalik District and formerly also on Frederik VI Coast. Fiord seal and, to some extent, bladdernose are the chief objects of hunting at Angmagssalik. Bears are regularly carried there in February by the ice pack, and later in the year they migrate towards the north. A few winter dwelling places are situated far towards the head of Sermilik Fiord under strictly Arctic conditions, but most are grouped round the rapids, and there are also a few far out at the outer coast where the hunting has a sub-arctic character. With justice the Eskimos at Cape Dan are renowned as kayakers.

A pronouncedly sub-arctic distribution of the dwelling places occurs on the west coast between South Ström Fiord and Julianehaab Bay. Not only is the saddleback the most important seal, but we are here so far removed from Arctic conditions that the ice is no longer an advantage but, on the contrary, an obstacle in the way of sealing. In most localities it is of short duration and unsafe; dog sledges are no longer used, and neither smooth ice with breathing holes nor rapids play any part, even though ice hunting is not entirely unknown. In the fiords where a cover of ice may be feared for long periods at a time, there are consequently no dwelling places, and the Greenlanders also shun such places where the archipelago, for instance,



between Niaqúngunaq and Godthaab, or in the region round Tre Brødre, makes it possible that a cover of ice may form even at the outer coast.

The only fiord dwelling places within this area are in the large Godthaab Fiord complex, which in this, as also in a geomorphological respect, occupies a peculiar position. It is true that the innermost small dwelling place, Qagssinguit, was founded during recent years with a view to fox-trapping; but then Qôrnoq, Ũmánaq, Qârusuk and Sârdloq are old dwelling places. Young ice frequently puts obstacles in the way of hunting from kayaks, and now that the seals are few, the inhabitants must sustain life in winter by fishing Norway haddock. Why, then, are these dwelling places situated here? It is tempting to regard the habitations in Godthaab Fiord as a kind of survival, a memory of a time when the distribution of the dwelling places, also in South Greenland, was of a more Arctic type than nowadays. But it is out in the island belt, at the sounds, where the saddleback passes, that the majority of dwelling places are to be found. Their situation is thus the same as those of most dwelling places in the Egedesminde and Holsteinsborg Districts, with the only exception that they are still more pronounced within the sub-arctic type of distribution. A number of dwelling places are situated here also at or in the very neighbourhood of the open sea.

A special form of the sub-arctic type of distribution is to be found in Julianehaab Bay, where not only a greater number of dwelling places are concentrated within a single district than in any other place, but where they are situated under widely different circumstances. The population in these parts, more than anywhere else in Greenland, has been limited to catching seals, as the great whales, walrus and reindeer no longer occur. In return, few places have had such an abundance of seal. The Polar pack, which for long periods at a time blocks the bay, has until quite recently been an ever well-filled larder, where the Greenlanders found countless bladdernose and, in a lesser degree, also bearded seal and fiord seal. The saddleback, on the other hand, is of less importance, because it is supposed to pass the district far out to sea. Both for this reason, and because the drift ice rarely penetrates far inside the outer coast, the sounds do not exercise the same attraction as farther north. Comparatively many and large dwelling places, such as Qagssimiut, Qarmat, Sârdloq, Sagdlit, and Pamiagdhluk, are situated in the immediate vicinity of the open sea.

Nevertheless, dwelling places are not entirely lacking in the inner waters. They are to be found at the transition between Brede Fiord and North Sermilik, in Agdluitsoq Fiord and in some of the sounds at Cape Farewell, and it is an interesting fact that the genuine, Arctic ice-hunting methods are still to some extent used in these localities. It is because of the decrease of the seals in the two former localities that the inhabitants have now changed to the fishing of Greenland halibut and Norway haddock and, in one case, at Nûgârssuk in Agdluitsoq Fiord, the establishment of the dwelling place has

been dictated by this fishery, but even at Nûk, only 25 km from the southern point of the main land, seals may be caught at the breathing holes. As in the case of the Godthaab Fiord it is perhaps not too bold a conclusion to put these dwelling places down as survivals from another type of distribution.

In the Julianehaab District we also find, what is otherwise unknown in Greenland, *viz.* one or two dwelling places which have not been established for purposes of hunting, even though for the time being hunting is a necessary supplement to other occupations. We are first and foremost thinking of Igaliko, which was founded on the ruins of the old Norse Bishop's See Gardar, and is now the home of a few cattle-breeding Greenland peasants, and Qagssiarssuk, near the homestead of Erik the Red, where a family has settled in quite recent years, with the intention of sheep farming. Here we are beyond the limit of the genuine Eskimo type of distribution. These parts, which are more closely packed with Eskimo dwelling places than any other locality, Disko Bay only excepted, are the regions where the special Eskimo type of distribution is most apt to be replaced by others, because it is here that conditions are at hand for the raising of live stock on simplified European lines and practised by Greenlanders.

**The Dwelling Places** are not imposing in size. In West Greenland the number of inhabitants (naturally exclusive of Danes) averages 76.5 individuals per inhabited place. If, however, the chief settlements of West Greenland are taken separately, their average rises to 275 inhabitants, the maximum being represented by Sukkertoppen (335 individuals) and the minimum by Christianshaab (128 individuals); thus the average of the remaining inhabited places is reduced to 62.4. This gives a somewhat more correct expression of the size of the genuine Greenland dwelling places, but even this figure is only attained by the presence of a few particularly large outposts, such as Nanortalik, Narssaq, Kangâmiut, Pröven, etc. It is significant that of the 207 dwelling places which were to be found on the west coast and in the Angmagssalik District in 1921, more than half had under 50 inhabitants and nearly a fourth only 25.

On the east coast, where several families live together in a large communal house, it is still the rule that there is only one house to each dwelling place. In West Greenland communal houses were also used in the olden days; now there are on an average between eleven and twelve houses per inhabited place, and excluding the chief settlements only between nine and ten. Even here there are a few dwelling places which only consist of a single house (though never for many families). Frequently there are only four or five houses, or at the outposts twice the number, and twenty make a very large dwelling place. In the settlements there are on an average 41 Greenland houses, the extremes being represented by Julianehaab with 72 and Christianshaab with 21. The southern settlements, on an average, have more houses and a larger population than those in the north. From of old the Polar

Eskimos have used houses for one or two families, and consequently their dwelling places normally average more houses than was formerly the case in West Greenland, though even here they are generally few in number.

The dwelling places may nestle in small creeks or face the open sea, and again they may cling to the foot of the mountains or lie scattered on a level plain. But whatever their situation, it is difficult to catch sight of them if they have retained the original Eskimo appearance. The Danish wooden houses of the settlements, red-tarred and painted in pleasant colours, the



Fig. 10. A typical West Greenland outpost: Agto in the Egedesminde District. (Birket-Smith).

church with its small spire, store and warehouse are frequently visible from afar, lying scattered like toy houses in the midst of grand scenery; but the native dwellings are, as it were, part of the soil, and unless provided with wooden roofs they may at a distance easily be mistaken for stacks of peat or large boulders.

The arrangement of the houses is simply regulated by the topography of the place. As a rule the Greenlanders take care to build on sites which drain properly. Beside the house a rough scaffold is erected, and here skin boats and kayaks are placed so as to be out of reach of the dogs; in South Greenland this scaffold has disappeared together with the dogs of Eskimo race, and in these parts the boats are now simply pulled up on the beach. In North Greenland there are frequently small provision sheds, roughly made of wood, sometimes also of stones or sods; in South Greenland winter



provisions are frequently kept in a fissure in the rocks, covered with old boat-skins. The Polar Eskimos are also in the habit of depositing their winter stores in fissures in the rocks, besides having scaffolds made in the shape of round stone pillars, which are erected at the dwelling places from stones piled up to a height of more than a metre and a half, with a somewhat smaller diameter. In front of the houses lie the refuse heaps or "kitchen middens", which in old dwelling places may attain a considerable depth. However valuable to archæologists—in the dwelling place of Sermermiut at Jacobshavn Icefiord, for instance, the culture layer is 2.5 m thick—it cannot be denied that in modern dwelling places they are anything but desirable from a sanitary point of view, and, generally speaking, greater attention might very well be paid to hygienic considerations, even at the chief settlements.

**Hunting Camps.** Wherever there is good hunting or fishing at certain seasons, most frequently in summer, the Greenlanders will pitch a temporary camp. Every dwelling place has, as a rule, certain camps, though sometimes shared by other dwelling places, but otherwise anyone is entitled to pitch his tent wherever he chooses, naturally presuming the tacit consent of the people living in that place. That camping does not take place to the same extent as formerly has already been mentioned, though it has not entirely disappeared anywhere, and in the Thule and Angmagssalik Districts the old habit is still flourishing.

The animals caught at the camps are to some extent such as only occur rarely in the region in question, even though in other places they may constitute the economic basis of the population, *viz.* especially fiord seal, walrus, saddleback and bladdernose; they may also be such that their importance is purely periodical. Among the latter should be mentioned reindeer, white whale and narwhal, birds, and various kinds of fish such as caplin, halibut, sea cod and trout.

In the spring the Eskimos of the high-arctic Thule District move out on the floe to a good sealing place where, at this season, the hunting principally consists of basking seals and seals caught at the edge of the ice. Before the re-introduction of kayak hunting, deer hunting and trout fishing from Baffin Island, the regular summer camps were at the bird cliffs, but now of course other animals are also taken into consideration, although the deer, after being recklessly hunted for a short period, have decreased to such an extent as to be practically negligible.

Within the Arctic area camping only prevails to any large extent in the northern Upernivik District, the causes of this habit being very nearly the same as in the Thule District. In spring, as the ice disappears, the inhabitants move in the direction of the heads of the fiords in order to hunt basking seals or seals from the edge of the ice; when autumn approaches they move in the same direction for the sake of deer hunting and trout fishing; in fact,

both occupations are frequently carried on in the same locality. In summer on the other hand, a move is made in the direction of the out-lying hunting grounds at the coast, the object being the capture of bladdernose and saddleback. In Disko Bay and Vaigat these factors are augmented with the caplin fisheries, which cannot be practised in the north.

In the transitional region between the Arctic and sub-arctic areas the greatest move takes place in the Egedesminde District. Here, as farther north, the ice edge is followed in the spring, as it recedes inwards in the fiords, the object being to carry on sealing. Otherwise the movement in this area, as on the whole of the strictly sub-arctic coast, is first towards the outer coast in order to take part in the bladdernose hunting; then to the localities favoured by the shoals of caplin and, finally, to the heads of the fiords for reindeer and trout. In one or two outlying places at the boundary between the Holsteinborg and Egedesminde Districts there are also hunting grounds for walrus. During later years, however, some disturbance has been caused in the old cycle. In Holsteinsborg and the regions immediately to the north and south of it, fishing is gradually gaining the upper hand. Every summer the umiaks pass all the way from Disko Bay and from the northern Holsteinsborg District to the small islands at the mouth of North Ström Fiord, where the halibut at this season have migrated to the large, submarine banks. In the Sukkertoppen District there is also halibut fishing at some of the outer islands, and at Holsteinsborg there are special grounds for cod fishing. In the Godthaab District the hunting of white whale, rather than fishing, has for some time been gaining ground. From the dwelling places of the large fiord system the population now resorts to Qaqq in such quantities that they neglect, not only the caplin fishery, but also the hunting of saddleback. Further, a future also seems to be opening up for cod fishing.

In the Julianehaab District trout are not numerous, and reindeer have been exterminated for nearly a century. This is the reason why the Greenlanders in this locality prefer not to resort to the interior parts of the fiords, as this would mean a break in their hunting of bladdernose, the vital interest of the region. In this district it is, therefore, only on the outer islands that the camps are to be found, apart from the short period when the caplin appear at the coast.

The Angmagssalik District shows its connection with higher Arctic regions by the fact that the population moves into camps for the purpose of hunting fiord seals basking on the ice, but in other respects conditions more resemble those of Julianehaab Bay. At Qingaq there is a camp for the fishing of caplin which is common to the whole of this district, but later in the season the situation of the camp is determined by the bladdernose, and only just before the natives move into their winter houses, do they visit the trout rivers at the heads of the fiords.

The camps are formed under topographical conditions resembling those

of the dwelling places. There must be possibilities of landing, fresh water, etc., but everything naturally has a more temporary character than in the case of winter dwelling places. As long as it is cold, and when there is sufficient snow, the camps of the Polar Eskimos consist of snow huts, but genuine snow huts are not used elsewhere in Greenland. In regularly visited hunting grounds there are sometimes small, wretched huts of stone and sod, but the proper travelling dwelling is the tent. The tent camps are the characteristic dwelling places of the Greenland summer, bleak and comfortless when gales and rain sweep the naked islands, but gay and lively when the sky is clear once more, when the tent-covers are stripped off and spread out on the ground to dry, and the kayaks are again scouring the sea in the direction of the sealing grounds, and extremely fascinating in their simple beauty during the golden summer nights, when the aromatic smoke of the open fires swirls above the pots with the black seal meat and the bubbling blood soup, and the laughter of the young girls rings among the hills . . . .

#### DWELLINGS.

**Winter Houses.** The architecture of the Greenlanders is *a priori* greatly circumscribed by their difficulty in procuring wood. Even in the south they were exclusively limited to drift-wood, which becomes scarce at the more northerly part of the coast and practically *nil* in the Thule District. While the walls might easily be constructed of stone and sods, the construction of the roof greatly complicated matters, as it demanded supports of some sort or other, and the Greenlanders then resorted to various expedients which bear testimony to a great technical proficiency. For the sake of warmth the house sites along the southern coasts were slightly excavated into the ground or into the sides of hills, but in the north this could not be done to any extent because of the permanently frozen soil. Generally speaking, the original Greenland houses must be said to be well adapted to the environment. They are least fit to resist rain, for in this respect the flat, or almost flat, roofs are not very practical, but in view of the cold it would be still more inexpedient to make the roofs high. Besides, in the olden days the houses were not inhabited in summer, when there is most rain.

Now, however, the original arrangement of the houses has been greatly changed, at least on the west coast, and, as always, the transition period is attended by great drawbacks. The dwelling problem is an extremely serious one, which is still awaiting its solution. As the Eskimos are not renowned for cleanliness, it is not to be wondered at that great quantities of dirt gradually accumulate within these earthen houses. On the other hand, the construction of the original houses was so simple that when the Greenlanders moved into their tents at the coming of spring, they did not hesitate to break down the whole of the roof, so that in the course of the summer the houses were



thoroughly aired and cleaned by natural processes. Unfortunately at the present time it is only in the Thule and Angmagssalik Districts, as well as in a very few places along the west coast, for instance in the northern Upernivik District, that this concession is made to hygienic demands. The Greenlanders now have got so much in the way of woodwork and other appurtenances within their houses that they are content to remove windows and doors, and at the same time their tenting season has become of much shorter duration. The consequence is, unfortunately, that housing conditions on the west coast are worse from a hygienic point of view than in the original Eskimo community, and until conditions have improved the attempts made by the medical authorities to put down tuberculosis in Greenland will be in vain.

The first description of Greenland winter-houses is in Olaus Magnus' great *Historia de Gentibus Septentrionalibus* (1555) where their form is compared with that of inverted boats, and it is told that they were built with rafters of whalebone and covered with sods. This description is of particular interest, as there is reason to believe that it can be traced back to the expedition of Pining and Pothorst in the years about 1472.<sup>1</sup> Later travellers saw the same type of house in various localities along the west coast. The last reference to it was made by Danell after his journey of 1652, in the course of which he found at Itivdleq in the Holsteinsborg District whale-rib houses shaped like "a large baker's oven." In recent years many ruins have been found on the west coast, which undoubtedly belong to such houses, and in the Thule District there are also several ruins of this type, while up to the present no description exists of undoubted specimens of such houses from the east coast. This fact, however, cannot by any means be considered as evidence of their non-existence.

Houses of this type are now no longer in use, and nothing is known of their having been employed since the beginning of colonization. It may be supposed that the decline of whaling, in connection with easier access to wood, has resulted in the abandonment of the type. However, the winter houses in the Thule District, where the lack of wood has only been remedied in very recent years, are clearly derived from the old, dome-shaped whale-rib type (fig. 11). By a very appropriate comparison an author likens these Polar Eskimo houses to gigantic tortoises resting on the ground with head and neck extended far beyond their vaulted shell.

Passing through a low and narrow house passage, which is about 3 m long and which slopes gently downward from the entrance, we crawl over a step and then find ourselves on the stone floor of the single compartment

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<sup>1</sup> In his *Description of Finmarken* from about 1520 another Scandinavian church dignitary, Erik Walkendorf, says that the Eskimos live in subterranean dwellings. This statement is no doubt based on mediæval tradition, while Olaus Magnus probably had a more recent source.

of the house. The room is small, hardly 4 m in depth and about 3.5 m wide in front, further narrowing towards the back wall. The height of the room is not greater than just to permit the inhabitants to stand upright. The whole of the background is filled up with the low stone platform which is first covered with a layer of fresh-smelling hay and, afterwards, with soft deer or bearskins. On the platform the family spend most of their time, it being table and chair in the day and bed at night. In front of it,

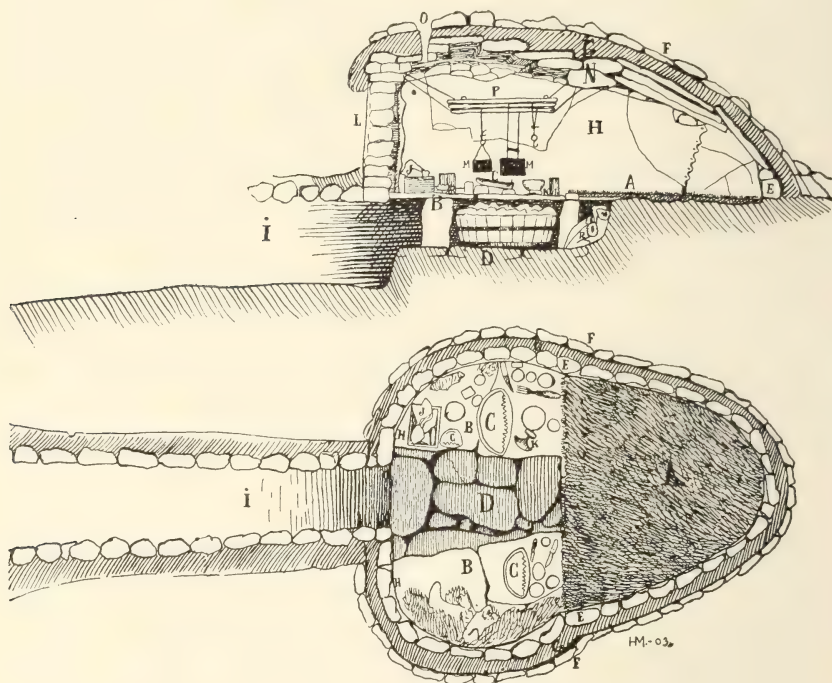


Fig. 11. Sections of a Polar Eskimo winter house. (Harald Moltke).

*A* sleeping platform; *B* side platforms; *C* soapstone lamps; *D* stone floor; *E* and *F* wall stones; *G* sods; *H* room above the platform; *I* meat box; *K* woman's knife; *L* gutskin pane; *M* cooking pots; *N* roof stones; *O* air-hole; *P* drying frame; *R* room beneath the platform.

on each side where the house is broadest, there are narrow side platforms, on which lamps and other household utensils are placed, and where likewise the frozen pieces of meat are put in order to be thawed.

The most admirable feature about this dwelling is the manner in which it is constructed, the Eskimos having independently invented the "cantilever" system of modern engineering. At the hindmost corners of the side platforms, in the middle line of the back wall, and a few other places, large flat slabs project above the low walls. Their extreme ends are weighed down by large and heavy stones which act as counterweights, whereas they converge inwards and form the lower part of the gently vaulted roof. Resting upon the innermost corners of these freely projecting stones lies a large flat top

stone which entirely closes the roof. It is evident that the converging slabs have their prototypes in the whale-ribs of former days. On the outside the whole of this stone structure is covered with sods upon which, in its turn, is placed another layer of stones, and on the inside the wall is covered by a hanging of sealskins, with the light fleshy sides turned inwards. In the front wall of the house, above the house passage, there is a window pane consisting of strips of gutskin sewn together vertically, through which a soft and gentle light is able to penetrate into the room. The roof is perforated in front by a hole, "the nose of the house" as it is called, through which the vitiated air, like a white mist, passes into the cold outer air; in snow storms this air-hole is covered by a sod.

A perfect contrast to the houses of the Polar Eskimos are the winter dwellings on the east coast which, with small variations, are still used in the Angmagssalik District (figs. 12—13). Here there is a considerable quantity of driftwood which has been carried by the Polar Current from the Siberian rivers, both in the shape of large trunks and innumerable smaller pieces. This fact enabled the Greenlanders to construct large communal houses, whose history of development, however, is not quite clear; it is uncertain whether this type of house is a genuine Eskimo creation which owes its origin simply to the building together of several smaller houses, or whether it is partly due to the influence of the old Norsemen on the south part of the west coast, where somewhat similar houses were used. Certain facts may be said to favour the latter supposition. The communal houses may have a width of up to 8 m, or in rare cases even more, whereas the depth is only about 5 m.

The house is approximately rectangular, or rather trapezoidal, in shape, the front and back walls being parallel, the former, however, somewhat shorter than the latter. The back wall is not infrequently dug into the slope of a hill, so that the roof at the back becomes level with the surface of the ground. From the front wall the low and narrow house passage projects, it being even longer here than with the Polar Eskimos. It is situated at a lower level than the ground and frequently placed obliquely in relation to the house in order to prevent a draught. The walls are erected of sods and unhewn stones to the height of a man, and the front wall is perforated by three gutskin panes, the middle one being as a rule the smallest and placed above the house passage. The roof is supported by a row of drift-wood posts, which are placed directly in front of the main platform and so are somewhat nearer the back than the front wall. On these props the roof beam rests, a heavy piece of driftwood or, in very large houses, several pieces in continuation of each other. From the roof beam a number of regularly spaced rafters slope gently towards the front and back walls, and between them there are slenderer sticks. The frame of the roof is covered first with sods turning the



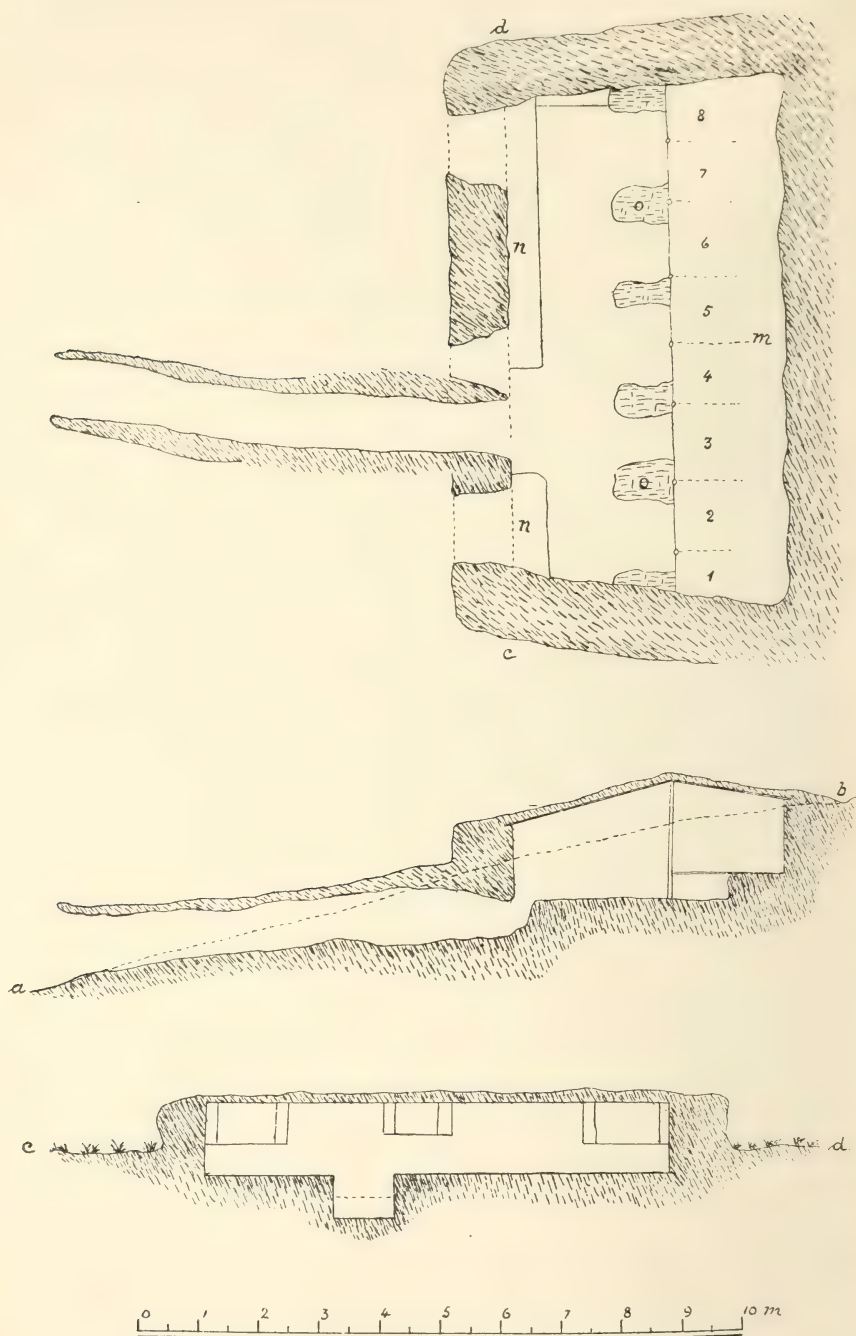


Fig. 12. Ground-plan and sections of a winter house at Angmagssalik. (Holm).

grassy side downwards, then a corresponding layer with the grass upwards, and over the whole are flung cast-off boat skins.

The interiors of the houses are arranged in a manner similar to that of the houses of the Thule District, though with the difference arising from the size. There is only one large room with a stone floor and walls hung with skins. Along the back wall rises the large platform, erected of stones, sods and planks and, by means of low partitions of sealskins, divided into as many compartments as there are families. The partitions do not entirely



Fig. 13. Entrance to an Angmagssalik house. (Thalbitzer).

The snow is level with the walls.

reach the back wall where a passage is left along the latter on top of the platform. In front of the main platform, which is covered by soft skins, there is at each partition a small stone platform for lamps and other utensils. Narrow platforms or benches run along the side and front walls where they are continued into the deep window recesses, these being the sleeping place of the unmarried men and visitors.

It is possible that these communal houses will disappear at the approach of civilization, although they are practical as well as economical from the point of view of heating. Glass windows have already, practically everywhere, replaced the old gutskin panes.

In the days of Hans Egede, as well as at a later period, a type of communal building was used in West Greenland which corresponded closely to that of the Angmagssalik Eskimos. Even as late as the beginning of the 19th. century it seems to have been used in many places. There might be smaller local deviations from the main type, as in certain places in the Egedesminde

and Holsteinsborg Districts, where on one short wall there was a semi-circular extension with a sleeping platform, whereas the other short wall, which had no such extension, was provided with a combined sleeping and lamp platform. Now it would be entirely in vain to look for these communal houses in West Greenland. They have been replaced by other types, and of these four are commonly distinguished.

One of these types is very closely related to the original habitation, the main difference being that the house is reduced in size, now only accommodating one, or a few closely related families. The size is generally about 4 m square, and in the Upernivik District, where the chief consideration is the preservation of heat, even less. We find the same walls of sods and stone, a similar flat roof of sods and heather, and a similar sleeping platform along the back wall as in the old communal houses, but owing to their small size there are frequently no posts, or at any rate only one, in the present houses. Whether the walls are chiefly constructed of stones or sods depends upon the access to materials. In the Julianehaab District there are many houses, almost entirely constructed of stone with thin bands of sods; in North Greenland sod is most used, and in the Holsteinsborg District, where there was formerly a considerable whaling industry, old whale vertebræ are sometimes used for the walls, and whale-ribs as rafters in the house passage. Partitions on the platforms were chiefly used in South Greenland, but are now very rare. In the Julianehaab District the platform is frequently divided by an open space in the middle.

On the north-west coast there is a long and narrow house passage which in the Upernivik District is still so low that a fair-sized man must crawl through it. In the south, where the climate is less severe, the house passage becomes shorter and higher, and in the Julianehaab District it is frequently limited to a kind of porch. Nowadays the house passage does not, as a rule, project from the centre of the front wall, but from one of the corners. At the end nearest the house, and sometimes also at the other end, it is closed by a door which is put in obliquely, so as to be kept shut by its own weight. On the southern west coast, though more rarely the farther north one gets, until it disappears entirely at Disko Bay, there is at the side of the passage an open, semi-circular or square extension where the food is cooked over a heather fire. This saves blubber, which is the original fuel, and in South Greenland the climate is sufficiently mild to make this economy possible. In the Julianehaab District the open kitchen lies at the gable of the house, right outside the door.

This extremely simple type of house is to be found all over West Greenland, but is nowhere the prevailing type. It is of most frequent occurrence in the Upernivik District, where about a third of all native houses must be referred to this class, and it is rarest in the greatly Europeanized district of Christianshaab, where only a few specimens are found. In most localities



the figure is somewhere between 10 and 20 per cent of the total amount of houses. Houses of this type are almost everywhere the most miserable in Greenland. This is not because they are most nearly related to the old form, for certainly the genuine Eskimo dwelling can be both excellent and comfortable; but they are so wretched, because the connection with the old house type is only in exceptional cases (the northern Upernivik District) due to primitiveness, but nearly always to poverty, and as uncleanness is the invariable attendant of poverty, it is easily understood that the sanitary

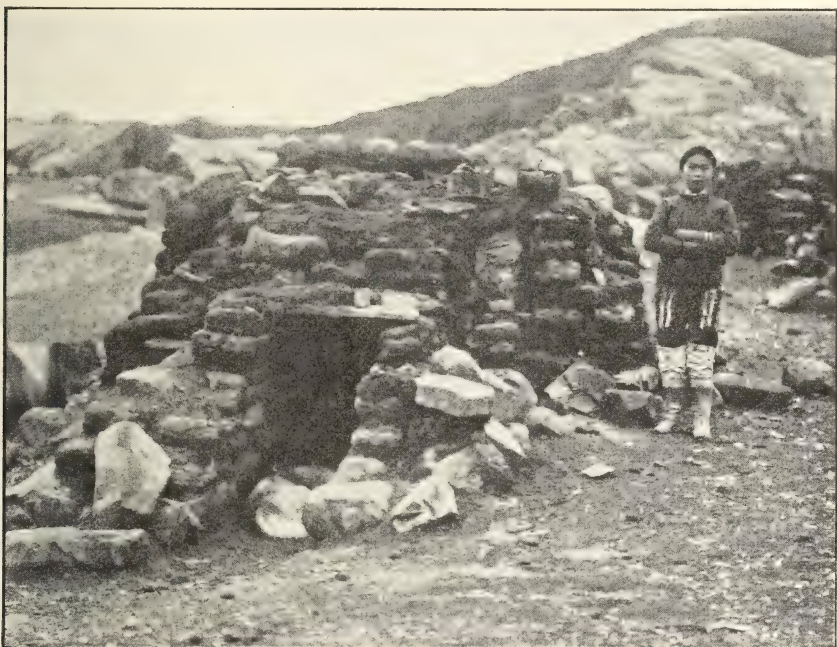


Fig. 14. Old-fashioned winter house with a gutskin pane. Ūmánatslaq in the Ūmánag District. (Steensby).

conditions in these damp and badly ventilated dwellings are anything but ideal.

The second common house type is only distinguished from the preceding one by a more extensive use of wood. These habitations consequently testify to the greater prosperity of the inhabitants, and as a rule they are also a little more spacious and provided with larger windows. There are many stages of transition from the first mentioned type. When the owner has once secured boards for the platform, he next begins to think of getting a wooden floor, then panels, and at last a wooden ceiling. The woodwork, however, is frequently of poor quality. It consists of rough boards, which are not painted. Therefore, these houses are frequently very draughty, a drawback which is remedied by plastering the walls with cuttings from illustrated papers or, if these are not available, with old newspapers. The woodwork has

the advantage that it can be washed, but this is often a mere theoretical advantage, and as further, because of the wood work, the roof can no longer be pulled down in summer for the purpose of ventilation, the hygienic improvement of these houses is, at any rate up to the present, rather doubtful. Nevertheless, it is a type of house which perhaps has a future before it, as the drawbacks attaching to it are not drawbacks in principle, but can be remedied with increasing prosperity and higher education. Besides, it is the type which at the present time is most common on the west coast, seeing that about half and in some places even two-thirds of the houses comply with it. Where fewest in number, as in the Holsteinsborg District, they constitute at any rate one-third of the houses. The third type are the so-called Danish-Greenlandic houses (fig. 15), introduced on the initiative of Captain W. A. Graah, known for the account of his expedition to the east coast in 1828—31. These houses are constructed of wood with ground sills and posts; the walls are lined with a single layer of boards, and there is an ordinary angular roof with match-boarding or, more rarely, asphalt proper. Round the house walls of sod are erected up to the eaves. The expectations entertained of this type of house were great, but it has serious drawbacks, and the Greenlanders are now almost on the point of abandoning it. If the eaves extend beyond the earthen walls, a space, which it is difficult to fill and which is apt to produce cold, will form when the walls gradually subside. On the other hand, if the roof does not extend as far as the earth walls, the rain water runs down along the wooden walls and causes them to rot quickly.

In other respects, the Danish-Greenlandic houses are appointed in the usual manner with a house passage which, however, as a rule is short and high, often only a kind of porch. There are frequently two rooms besides a loft below the roof, and upon the whole it is quite obvious that the families who can afford to spend so much on housing are fairly prosperous. Within the house the platform still bears testimony to the fact that the inhabitants are rooted in Eskimo habits, but there are many dwellings of white pioneers in Arctic and sub-arctic America which, both as regards cleanliness and domestic comfort, are greatly inferior to these Eskimo houses.

In the fourth type the Greenlandic dwellings reach their climax. They are rather faithful imitations of the Danish Government houses, being entirely constructed of wood in double layers, between which there is a space filled with peat dust, dry moss or shavings. Some houses in the Julianehaab District, which should, on the whole, be classed with this type, are, however, almost exclusively built of stone slabs, as this district in several places supplies good stone material. As a rule there are two or three rooms, a small kitchen and a porch, but no house passage. These inviting, red houses constitute a gay and bright spot in the Greenland landscape, holding forth promises of light and comfort within. Unfortunately, these houses also



have a drawback attached to them, and in this case an economic one. As all wood must naturally be imported, they are so expensive to build that only the most well-to-do are able to procure them, and they are also expensive in use, because it is difficult to heat them with anything but coal. Consequently, they are few, and mostly seen in the settlements, where they belong to those who hold permanent appointments under the Administration. They are most numerous in South Greenland where the heating, for climatic reasons, is easier than farther north. In some places the Greenlanders make



Fig. 15. So-called "Danish-Greenlandic" houses in the settlement of Egedesminde. (Birket-Smith).

Notice the way the kayaks are kept out of the reach of the dogs.

experiments at building the upper part of the wall of wood, and the lower part of sods.

European influence has not merely made itself felt in the shape of the houses generally, but also in the material used for windows. The panes on the west coast were originally made of seal guts or the intestines of halibut, but have now almost everywhere been replaced by glass windows. In the whole of South Greenland there are practically no gutskin panes left. On the other hand, they are still used in the more remote parts of West Greenland, *viz.* particularly in the southern Egedesminde and Upernivik Districts, where they are to be found in 15 and 20 per cent of the houses, respectively. In the Ūmánaq District there are also some left, even though the percentage is not as high as in the two other places. It is of course in the most primitive houses that the gutskin panes are to be found.



After having mentioned the houses used in Greenland nowadays, we are not going to say much of the types in the deserted regions. The Angmagssalik type was distributed over Frederik VI Coast, and it has also been found farther north on the east coast, as far as North Aputitêq, which marks the now abandoned northern frontier post of the Angmagssalik Eskimos.

In the Angmagssalik District, as well as in the whole of North-east Greenland, a house type has been found which deviates from the communal house by being arranged so as to accommodate only one or two families, but otherwise having a rectangular ground-plan and a roof supported by wooden rafters. Are these small houses the precursors of the large, communal houses, or are they derived from them, in the same manner as the modern simplified houses in West Greenland? They have been compared with the houses at Point Barrow in Alaska, with which, as a matter of fact, they also have many points in common. On the other hand, if a sparse population, for the purpose of greater freedom of motion, for instance, has spread over large distances, this must lead to the use of small houses. We can hardly solve the problem without also taking the other cultural elements of the east coast into consideration, and for the time being it seems safest to regard the small houses as a local simplification of the communal building. One thing is at any rate certain, *viz.* that some of the small houses at Angmagssalik are of a more recent date than the larger ones, for ruins have been found of the latter into which small houses have been built.

On the most northerly part of the east coast, at Dove Bay, there are house ruins whose ground plans resemble those of the Thule type. The roof in most cases has only consisted of thin stone slabs, without woodwork or whale-ribs, and consequently they have in all probability been built according to the cantilever principle. This is not the only point of resemblance between these regions and Smith Sound.

In 1923 there were, on the west coast, a total of 2126 permanent houses belonging to Greenlanders, 32 on the east coast, and an unknown number in the Thule District. This, as far as West Greenland is concerned, means that the number of houses has increased by about 200 during the last five years, and by nearly 650 since 1900. The distribution appears from the following table (page 79).

There is a very large difference between the average number of inhabitants of a house in East and West Greenland respectively, and of course it is East Greenland, where the old communal houses have been retained, which shows the original conditions. On the west coast the number of inhabitants averages 6 and 8 persons per house, but in 1890 the average was between 8 and 9. Nevertheless, there are still far more than the average in regions where the population has remained most faithful to old customs; in the southern Egedesminde District there are even now a few houses with

Table VII. Number of Houses in 1923.

District	Houses	Inhabitants per house
Julianehaab.....	585	6
Frederikshaab.....	139	7
Godthaab.....	161	8
Sukkertoppen. ....	169	8
Holsteinsborg.....	108	8
Egedesminde.....	198	8
Christianshaab.....	85	7
Jacobshavn .....	101	6
Ritenbenk.....	96	6
Godhavn .....	54	7
Umánaq.....	244	6
Upernivik.....	186	6
West Greenland..	2126	7
East Greenland...	32	22

more than 20 inhabitants. Still, the degree of civilization of a district cannot be gauged merely from the average of inhabitants per house, as local conditions frequently make themselves felt, so that we have, for instance, a higher average in the highly civilized Holsteinsborg than in the far more primitive Upernivik District.

**Hunting Huts** are naturally of the greatest importance in such places where the permanency of habitation is least, *viz.* in the Thule District, whereas their use on the west coast proper is more limited. The snow house, which among the Central Eskimos is the winter dwelling proper, is in Greenland only a temporary hut for hunting purposes. The same applies to the Western Eskimos and is, of course, quite natural for tribes using permanent earthen houses. In itself the snow house, it is true, is a warm and highly serviceable dwelling, but it suffers from the great drawback that it can only be built very late in the autumn, when the snow is sufficiently deep and firm, and it is far from pleasant to live in tents during the Arctic autumn. In Greenland the snow hut is therefore a temporary building, which is built in spring and frequently out on the fiord ice.

The only implement used for the building of snow huts is a knife, which was originally made of whalebone or of antler, but which is now provided with a broad and thin steel blade. With this a site is picked where the snow is sufficiently hard and homogeneous (in Greenland no special snow probe is known as in Arctic Canada); then large, rectangular snow blocks are cut out, almost 1 m in length, 0.5 m high and 0.2 m thick. If the layer of snow is thin, the blocks are cut out horizontally, if deep, vertically, and the excavation thus formed is used as the floor of the hut. The lower tier of blocks

is arranged in a circle; then the upper edges of several blocks are cut off obliquely, so as to form a butt for the second tier. During the whole process the builder stands within the walls continuing without interruption upwards in a spiral. With the snow knife every block is fitted into the preceding and the underlying blocks and is made fast with a powerful thrust of the hand. While the circle is gradually being made narrower, the blocks, at the same time, are inclining more and more inwards, and a regularly shaped dome is at last formed. The chinks are filled with loose snow. As in the case of the earth huts the interior is provided with a platform, in this case constructed of snow, at the back of the hut, and unless the house is only to be



Fig. 16. Snow huts of the Polar Eskimos. (Knud Rasmussen).

The entrance is closed with a snow block for warmth.

used for a single night, it is also provided with a house passage of the same material.

Snow huts are now practically only used on spring voyages in the Thule District (fig. 16), but they have formerly been more widely distributed. On the north-east coast and the north-west coast as far as Disko Bay many specimens of the characteristic snow knives made of antler or bone have been found. Besides it is said that West Greenland hunters, who spend the night in the open, still make small and primitive huts or shelters of snow; but this undoubtedly happens very rarely. The reason for the disappearance of the snow hut south of Melville Bay is partly a geographical one. That the snow in itself is good enough, at any rate until far south, is beyond a doubt; but as soon as the country has possibilities of a comparatively dense population with permanent winter dwelling places, the number of hunting expeditions and the need for temporary dwellings are naturally diminished. Hunters have not to provide their own accommodation for the night to the same



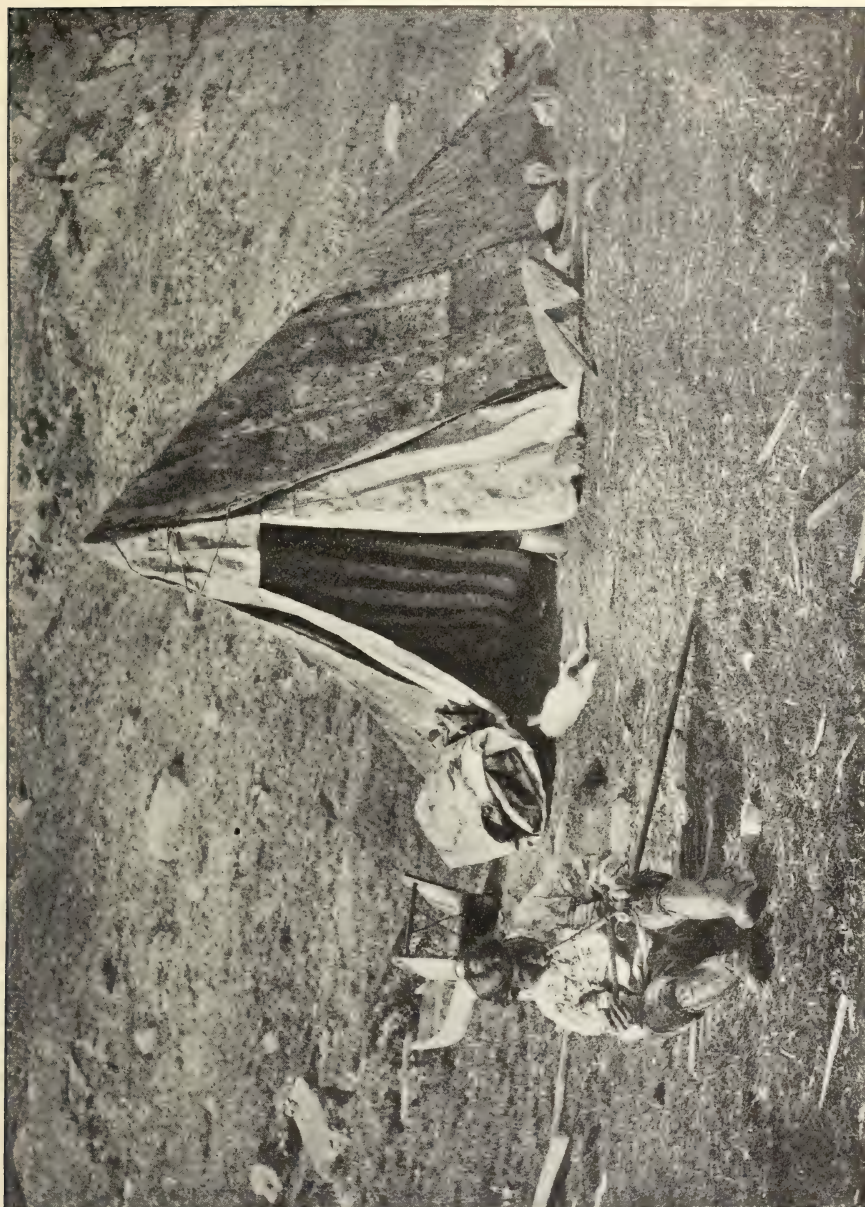


Fig. 17. Seal skin tent at Angnagssalik. (J. Petersen).  
In the foreground a man is drilling a hole in a harpoon shaft. Behind him is one of the small east coast sledges.

extent as elsewhere, and a further step in the same direction is the increasing disinclination to move out, caused by the Danish colonization.

In West Greenland hunting huts of a different kind are sometimes used in places to which the population returns at regular intervals. They are also often the outcome of dire poverty, because the inhabitants cannot afford to have a tent, and in the latter case they are extremely wretched. They are of most frequent occurrence on the southern part of the coast. Some of them resemble small and primitive winter houses, constructed of sods and stones, and with a platform at the back of the room. In the best of these huts there are gutskin panes; but many have no light at all, except what penetrates through the front part, where the door opening is. In front of this there is frequently a semi-circular wall of sods which breaks the wind and shields the cooking fire. At the heads of the fiords in the Sukkertoppen District, where hunting huts are particularly common because of the reindeer hunting, this primitive kitchen is covered with twigs and branches in order to avoid the annoyance caused by the mosquitos. During long rainy periods many of these hunting huts are transformed into damp and unhealthy quagmires.

Still simpler of construction, but more hygienic are the huts, or rather shelters, which only consist of earthen walls, built round the three sides and covered by old boat skins. Sometimes the tent is placed upon the walls, and there is thus a regular transition to actual tents erected on low earthen walls.

**The Tents** vary somewhat in the different districts of Greenland, but the construction is essentially the same everywhere (figs. 17—18). When a tent is to be pitched, which is always the work of the women, a kind of frame or gateway is first set up, consisting of a faintly curving cross-bar resting on two vertical or slightly converging posts, which are pegged into the cross bar. Between the posts is frequently placed a board standing on edge like a sill. On each side of the frame a pole is placed obliquely, the top being thrust through a strap in the cross bar. In the Thule District, where there is a great dearth of wood, we do not find these oblique posts, the object of which is to stiffen the frame. Towards the rear a row of long tent poles are placed fanwise, the tops leaning against the cross bar to which they are attached by skin straps, while the lower ends rest on the ground. The poles in the middle are the longest and, on the east coast as well as the west coast, project far above the cross bar; but the Polar Eskimos are not able to afford so much wood. With them the number of tent poles was originally reduced to one and is even now less than elsewhere in Greenland, where the oars of the umiaks are frequently used for this purpose.

Above the frame is stretched a tent cover, consisting of skins sewed together. In former times it was habitual to have two covers, *viz.* an inner and an outer one, but owing to the constantly diminishing number



of skins this is now rare outside the Thule and Angmagssalik Districts. The skins used were generally those of large seals, bearded seal, bladdernose and saddleback, and in the olden days well-to-do people on the west coast had their inner cover made of deerskin. The number of skins used for a tent cover naturally varies according to the size of the tent, but on the west coast it is generally computed that the skins of ten bladdernose seals are required for a common tent. When there is an inner layer of skins, the hairy side is



Fig. 18. Framework of a tent, Angmagssalik. (J. Petersen).  
The rectangular drying frames are suspended from the tent poles.

turned inwards; in view of the rain the outer side is made of waterproof skin, both at Angmagssalik and on the southern part of the west coast, while on the northern part of the west coast the hairy side is turned outwards. The tent flaps are weighed down by heavy boulders; when it is cold a low wall of sod is sometimes built at the base of the tent.

Among the West and East Greenlanders a curtain is suspended from the cross-bar, consisting of strips of gutskins sewed together, which permit of the light penetrating into the tent. In East Greenland these curtains have vertical stripes interchangeably light and dark. The outer tent cover projects somewhat above this curtain, and thus a kind of front room is obtained in which objects are placed which are not considered desirable within the tent. In order to make this front room larger, a smaller frame is sometimes placed in front of the tent frame proper, being connected with the larger by means of two horizontal poles. The tent cover is either made so large as also to



embrace this front room, or the latter is covered by a separate piece of skin. In the Thule District gutskin curtains are not used, but below the outer tent cover, which has the hairy side outwards, there is here an inner covering of bearded sealskins, the front part of which is carefully split, so that only the translucent inner layer is left. As the tent poles are here so short, there is no front room.

Besides the types of tents described above, which in spite of local devia-



Fig. 19. Sealskin tent with vertical gable in the rear, Taseralik Islands off North Ström Fiord. (Birket-Smith).

tions are all closely related to each other, there is another type (fig. 19) which formerly seems to have had a wider distribution in the Thule District as well as on the west coast, while it is now almost only to be found on the small island groups of Disko Bay, Kronprinsens, Hunde and Vester Islands. Besides the large frame in front there is here, in the rear, a corresponding smaller frame, on which the tent poles rest. Consequently these tents do not slope down to the ground, but there is a vertical gable at the back which is covered by a special back piece, consisting of two bladdernose skins, and sometimes provided with a small gutskin pane. That this type must be derived from the one described above, seems a foregone conclusion. It is more roomy than the common type, where a good deal of space is lost below the oblique wall.

However, on the west coast European influence has begun to manifest itself to a considerable degree. As long as there are sufficient skins,

the old type is rarely abandoned, though a few people use small tents of the common A-shape, covered by skins. As the shortage of skins makes itself more and more felt, the West Greenlanders begin to use tents of calico or canvas. They have a vertical pole in front and behind, connected by a long cross-bar or a seal thong. This European type has certain advantages above the old skin tents, being much lighter and easier to transport. On the other hand, it is very cold because unable to hold the heat, and it is also more easily soaked with rain. Therefore, as a rule the drawbacks are greater than the advantages, and this fact is perhaps to a certain extent responsible for the increasing disinclination of the West Greenlanders to move out into tents.

The arrangement of the tents corresponds with that of the houses. At the back there is a slightly raised platform, except in the gable tents at Disko Bay, where there is a platform along each side. When the Greenlanders move into tents early in the spring, while it is still cold, the platform is constructed in the usual manner, entirely or partly of wood, and there are lamp platforms of stone at the sides. In West Greenland, where nowadays a move is only made late in the year, the inhabitants content themselves with marking off the place of the sleeping platform from the floor with a plank and covering the sleeping place with heather. In summer and in fine weather the West Greenlanders cook their meals outside the tent with heather, making a fire-place by putting three stones together so that it is open to windward; the cooking pot is placed on top of the stones. In bad weather the fire is lit in the front room of the tent. On the other hand, the Angmag-

Table VIII. Number of Tents, 1923.

District	Tents		Inhabitants per tent
	Skin	Textile	
Julianehaab.....	49	50	35
Frederikshaab.....	0	28	31
Godthaab.....	2	112	11
Sukkertoppen.....	4	67	18
Holsteinsborg.....	5	75	10
Egedesminde.....	95	13	15
Christianshaab.....	24	14	14
Jacobshavn.....	13	13	23
Ritenbenk.....	15	24	15
Godhavn.....	4	6	36
Ħmánaq.....	1	41	34
Upemivik.....	72	9	13
West Greenland.....	284	453	19
East Greenland.....	63	0	11

ssalik Eskimos will never light a fire in the open, but burn lamps within their tents.

When bearing in mind the growing lack of skins and the increasing disinclination to move away from the dwelling places, one cannot wonder that there are now fewer tents in Greenland than formerly. In 1923 there were in all 800, besides an unknown number in the Thule District, distributed as shown by table VIII (p. 85).

That the number of individuals in relation to the number of tents is so much greater than in relation to the houses, is naturally not because there are more people living in a tent than in a house, but is due to the fact that far fewer people possess a tent now than in the olden days. Still, the number of tents has again increased somewhat during later years, which must be due to increasing wealth; in 1890, for instance, there were 28 persons per tent in West Greenland. The proportion on the east coast approaches the original figure, there being here twice as many tents as houses, though the latter are much larger than on the west coast. Also here, however, the number of tents has decreased somewhat, for when Holm arrived at Angmagssalik, the proportion between houses and tents was one to three.

#### FURNISHING AND HOUSEHOLD IMPLEMENTS.

**Heating and Lighting.** Whereas the Greenlanders now of course have matches everywhere, they formerly used a fire drill consisting of a hearth of soft or rotten wood, a drill of harder wood, a wooden hand piece by means of which the point of the drill was pressed against the hearth, and a thong by which it was whirled round. Like the Central Tribes in Canada the Polar Eskimos also used to strike fire with quartz and pyrites, while down and fluffs of cotton-grass or willow, slightly moistened with seal oil, were used as tinder in order to make the sparks ignite.

The lamp (fig. 20) is one of the principal elements of Eskimo life, making this people entirely independent of vegetation by replacing fuel with the blubber of sea mammals. In exceptional cases fish oil is used instead of blubber, e. g. that of the Norway haddock. The lamps vary in size, but are always shallow, nearly crescent-shaped bowls made of soapstone. One edge is strongly convex, and in the cavity in this side the blubber is placed; the other edge is but faintly curved or almost straight, and along it is placed a wick of moss or, at the present time, of cotton. In former days the large lamps were frequently subdivided lengthwise; the rear compartment held the still unmelted blubber, and from there the oil was scooped into the front compartment, or it ran through an aperture in the ridge. The lamps burn all day and most of the night. An Eskimo blubber lamp sends out a warm and pleasant light and very considerable heat. When properly tended, it never smokes, but the tending, it is true, requires a good deal of practice.



The Greenland housewife, whose duty it is to look after the lamp or lamps of the household, therefore, has a wick trimmer, as a rule an ordinary wooden stick, and with this she arranges the wick. The wick trimmer may also be a seal rib or a piece of asbestos; at Angmagssalik it is made of iron with a wooden handle. The Polar Eskimos place the lamp on three or four stones, between which a small skin bowl is set in order to catch the drippings, for

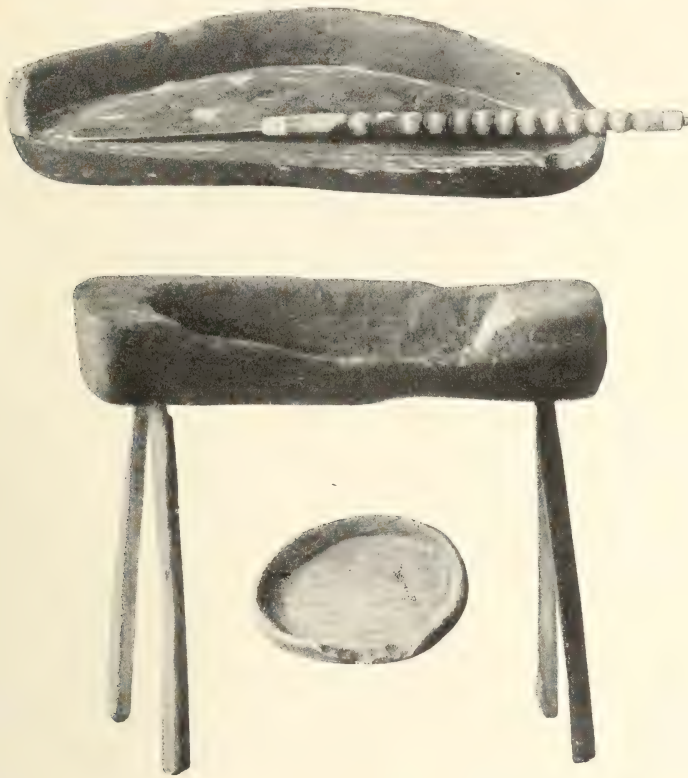


Fig. 20. Soapstone lamps, wick trimmer, lamp stand and dripping bowl. Angmagssalik. (National Museum).

the porous soapstone is gradually saturated with blubber which gathers on the under side of the lamp. In other districts the Greenlanders, however, have a lamp stand consisting of a heavy block of wood, scooped out at the top and resting on three or four legs.

There are only very few places in West Greenland where soapstone lamps are made nowadays. The old ones are used until they break, but new lamps are frequently manufactured of tin or some other metal. This is also true of Thule. Besides, even though the lamps are retained for lighting purposes in West Greenland—only the most well-to-do have old-fashioned European oil lamps—there are many places where small stoves are used both for heating and cooking. The fuel mostly used in the stoves is peat, which is

cut in summer and dried, being turned once in a while, and stacked. For the heating of a common house at Disko Bay for a whole winter 12 or 14 stacks are needed. Coal is hardly used by the Greenlanders, except where there are local coal mines (Disko Island, Ũmánaq District).

Heating with blubber lamps chiefly occurs in remote regions, but here also other circumstances make themselves felt. It is a real proof of primitiveness that more than half of the houses in the Upernivik District are heated merely with lamps, and that in the Ũmánaq and southern Egedesminde Districts there are a few per cent of the houses where the same is the case. It is different with the sub-arctic districts. There stoves are lacking in a fourth or a third of the houses, in the Frederikshaab District even in more, so that the heating here exclusively takes place by means of blubber lamps. It is by no means because blubber is more plentiful in these parts than farther north, so the cause is rather climatic. Stoves can partly be dispensed with, because in these very regions the house passage is frequently provided with a kitchen. Nevertheless, there must be blubber lamps for the sake of lighting, and in the sub-arctic winter the small lamps are also considered sufficient for heating.

**The Sleeping Place** is the platform along the back wall of the house; in the large communal houses only visitors and unmarried men slept on the window platforms. On these are spread skins of seals and, when available, also of reindeer and bears, but hardly anyone outside the Thule District is able to afford the latter; here also skins of musk-oxen were used in former days. In olden times the Greenlanders slept entirely naked, with their feet towards the back wall, and covered by a large skin rug. Married couples and small children had a common rug. With the introduction of European underwear this custom has been given up, at any rate on the west coast, where the women, when going to sleep, rarely take off anything but their long boots and jackets. They now cover themselves with feather-beds, and instead of rolling up their clothes and placing them under their heads, they use a cushion. In the day time the bed-clothes lie piled against the wall at the foot of the platform, where in well-to-do houses they are hidden by a white, crocheted bed-spread.

**Household Implements.** If, a generation ago, we had crept into one of the large houses at Angmagssalik, we should have found a supply of household utensils which, although limited in kind, were well adapted to their purpose and of really beautiful workmanship. The lamp is, as it were, the centre of the household. Above it hangs the soapstone cooking pot, which has a flat, oval bottom and slightly receding sides (fig. 21). According to the needs of the moment it can either be pulled above the flame or pushed back. When the meat is boiled, it is forked out with a bone prong and placed in bowls and upon trays (fig. 22). These implements vary in size and shape, but all of them are carved from a single block of wood and gener-

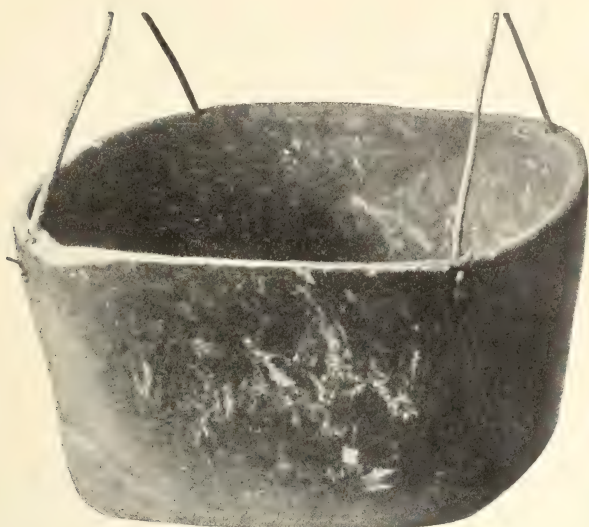


Fig. 21. Soapstone cooking pot, Angmagssalik. (National Museum).

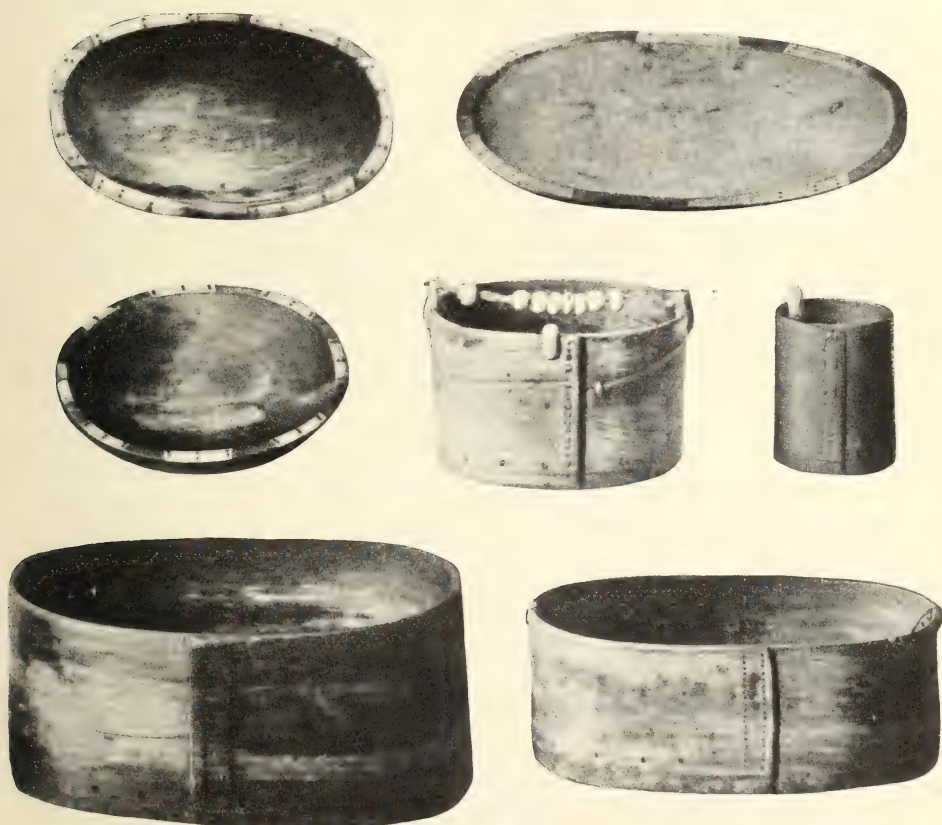


Fig. 22. Meat trays, blubber vessels and drinking cup, Angmagssalik. (National Museum).



ally provided with a handsome bone-mounting along the upper edge, so as to prevent the wood from splitting. Ladles (fig. 23), spoons and flat, perforated fish ladles are carved in a similar manner; they are also manufactured out of the shoulder-blades of bears. Blubber is kept in oval vessels with flat bottoms and sides made of wood scraped thin and bent by steaming, the overlapping edges being sewed together (fig. 22).

Beside the lamp stands the indispensable water pail (fig. 24), a specimen of excellent cooper's work and showing a technique, which of the whole Eskimo world is only found in Greenland, and which undoubtedly is due to



Fig. 23. Wooden ladles, Angmagssalik. (National Museum). •

early European influence. A cross-stick is pegged into two lengthened staves as a handle. These water pails are not merely supplied with a bone mounting along the upper edge, but frequently carved ivory figures of human beings and marine animals are placed on the sides. As a rule the water pail is filled with ice or frozen snow in winter, and in order to suck up the water gathering at the bottom, the Angmagssalik Eskimos use sucking tubes of wood or bone; regular water dippers are also used.

Above the lamp are suspended large wooden frames, on which wet boots and mittens are placed for the purpose of drying. From the drying frame or the house post are suspended beautifully embroidered, triangular needle-skins with the characteristic double bone hook on which the sewing ring is placed. Small articles are kept in bags made of skin, of the same fine workmanship as the needle-skins, or are also made of bladders, fish heads or

the like. Below the platform is the lumber room. There meat trays and receptacles for blubber are pushed in when not in use; there are the wooden boxes of the men containing tools and small objects; there are skins rolled together and, last but not least, the large urine tubs which, like the water tubs, are cooper's work, but without a handle. For the purpose of skin-dressing it is necessary to keep the stale urine. It may also happen that a bitch with a litter of puppies, too young to stand the winter cold, have found a shelter below the platform, and, besides, there is the whole surprising collection of trash which an Eskimo house-wife is so loth to part from.

At Thule the original furniture is of the same kind as at Angmagssalik, though of plainer workmanship, as is to be expected in a place where wood

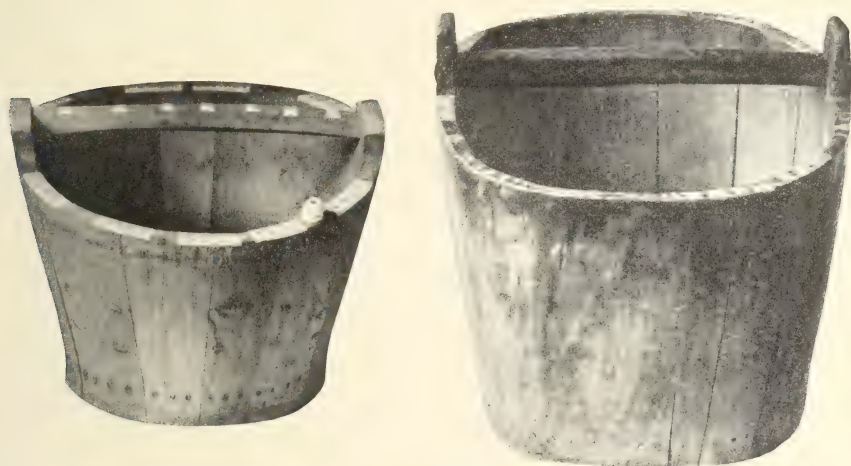


Fig. 24. Water pails, Angmagssalik. (National Museum).

is so precious and where the artistic sense is undeniably much less developed. Here we find a similar cooking pot made of soapstone and a similar drying frame; but the large wooden dishes are replaced by trays made of the shoulder-blades of walrus; the ladle is made of the horn of a musk-ox, while water pails and water dippers are made of depilated sealskin. Further, the urine tub is lacking, as the Polar Eskimos do not use urine for their skin-dressing. Needle-cases of ivory replace needle-skins, but otherwise there is a similar supply of small articles, such as sucking tubes, bags and the like.

At Angmagssalik as well as at Thule the old household implements are now replaced by European articles; it is a piece of luck, at the present time, to find houses where the heavy and fragile stone pots are still used, although the Eskimos maintain that the slow cooking in these vessels gives a better taste to the meat than when it is cooked in iron pots. It is now easier to buy teapots, enamelled dishes and zink pails than to make them oneself out of wood or skins, and the water dipper is conveniently replaced both by cheap crockery and old tins.

In West Greenland the original household implements were almost the same as at Angmagssalik, though less ornamented, as is shown by grave finds from heathen times. Also here cooking pots of soapstone were used, as well as water buckets and urine tubs of cooper's work, and large meat trays hollowed out from a single block of wood. Buckets and dippers might also be made of skin or baleen, the latter material being further used for blubber vessels, instead of the wooden sides used at Angmagssalik. Un-



Fig. 25. Grass box, Frederikshaab District.  
(National Museum).

known on the east coast, as well as at Thule, are the West Greenland grass boxes of "coiled basketry" (fig. 25); a similar technique, however, occurs with most Eskimos outside Greenland, and it therefore seems to be an old feature of Eskimo culture.

Nowadays all that is left in West Greenland of the original household implements are, practically speaking, the drying frame, some large skin bags for clothes, stirring ladles, and a few other articles which cannot be directly replaced by imported merchandise. To this should be added a more or less complete supply of articles of which the early

Eskimos had no idea. Even when leaving out of consideration the few cases where a complete set of European furniture with a sofa, pretty pictures on the walls, a harmonium, a book shelf, etc. makes the visitor doubt whether he has entered a "native" or a Danish home, it is now only in the very poorest houses that we do not find a shelf with basins, sugar-bowl, gaily painted coffee cups, tin spoons, etc. Clocks with weights, barometers, pictures (which as a rule are crude chromolithographs with scenes from the Bible) chairs, chests of drawers with fancy covers, and modest bric-à-brac are of frequent occurrence in the houses of West Greenland, all according to the financial standing of the owner. The Bible and a hymn book are naturally never lacking, and rarely a few copies of the newspaper of the province.

#### CLOTHING.

**Character of Clothing.** If we regard dress from the three points of view, modesty, embellishment, and protection against the cold, there can be no doubt to which of the three considerations the practical minded Eskimos attach the greatest importance. The Arctic climate prescribes complete as well as warm clothing. That modesty plays a subordinate part appears from the fact that formerly the Greenlanders, like their kinsmen at the Mackenzie River and in Alaska, stripped almost naked when they were in their houses. The original Eskimo form of sexual modesty is differ-



ent from ours, free from strait-laced hypocrisy, but admixed with a certain fear of magic. Its influence on the clothing, however, appears from the fact that grown-up people, even while otherwise naked, keep their sex organs covered.

The consideration of embellishment is likewise subordinate. The Greenlanders know nothing of the absurd expressions of vanity characterizing a Herero woman with her twenty kilograms of iron trinkets, or the corresponding extravagances indulged in by female visitors of the Savoy or Carlton. This, however, does not prevent their dress from being beautiful as well as costly—the dresses of many a fashionable lady are not more expensive than the blue-fox apparel of a Polar Eskimo beauty, nor has she attached a more deliberate importance to her appearance than the Eskimo girl, both as regards the choice of skins and cut. But ornamentation is adapted to practical ends in an agreeable and natural manner, and is not permitted to grow beyond reasonable bounds.

In the skins of Arctic animals the Eskimos have their original and, at the same time, their best material for meeting the demand for protection against the cold, which is the essential basis of their clothing. It is manufactured according to the “double-pane” principle, as one author puts it, inasmuch as it consists of two homogeneous layers. The original Eskimo costume is the ideal Arctic dress, because it fits so loosely that there is a layer of heated air between the inner clothing and the body, and at the same time it permits the evaporation of the moisture of the body. An Eskimo entirely clothed in skins may be wet through with perspiration, but in the course of a few minutes he will be quite dry again without any feeling of discomfort. As in so many other respects the influence of European civilization, which is adapted to geographical conditions of quite a different nature, in reality means a decrease in the effectiveness of clothing. Of what use is it that all Greenlanders, with the exception of a few Polar Eskimos, possess shirts and Faeroe woollen sweaters, when they must pay for them with rheumatism in their old age, because this underwear prevents all ventilation? Originally it was a bad imitation of the habits of the Danes, who very likely think that they cannot stand wearing skin against their bodies, but for whom there is at any rate the excuse that they need not be so much in the open as the Greenlanders. Now European underwear has unfortunately also become somewhat of a necessity because of the scarcity of skins. It does not improve matters that West Greenland fashions of to-day demand that the clothing should fit as closely as possible.

As a matter of fact future clothing in Greenland is an important problem which deserves attention. Not without reason do the Polar Eskimos say that as a hunter a man is what his wife makes him, expressing by this the truth that his clothing is of paramount importance to the efficacy of his hunting, both in time and in space. It is not *only* the decreasing number

of animals, but also to some extent bad and unserviceable clothing that is responsible for the economic depression in Greenland.

An essential condition for deriving the full benefit from the Arctic skin clothing, is that it is dry. All snow is carefully beaten off before entering the house. For this purpose the Polar Eskimos have a wooden snow-beater, almost like a short, double-edged sword, whereas no special tool is used in West and East Greenland. The delicate foxskin jackets of the Polar Eskimos



Fig. 26. Woman softening a sealskin boot after the drying process, Egedesminde District. (Birket-Smith).

are rarely taken into their houses, but are kept in the open air in a small stone cache. In spite of the excellent system of ventilation the dress, however, gradually becomes moist from within, and this also applies to footwear and mittens. If a Greenlander is at all able to afford it, he does not wear the same pair of boots for more than a few days at a time. In summer, clothes are dried in the sun, and in winter on the drying frame above the lamp. When they have become stiff and hard after drying, they are rubbed carefully, and the women soften the boots by scraping them. In West Greenland the boot scraper is provided with a long and flat wooden handle, which is pressed tightly between the feet, while the boot is rubbed across a blunt iron edge (fig. 26).

The cut of the Greenland garments is essentially the same as that which recurs with all Eskimos all the way to Bering Strait; but it has its local features, and in addition, in remote Angmagssalik, a few very old peculiar-

ities have been retained which seem to have been lost with their kinsmen. The jacket should be regarded as being derived from a kind of skin poncho, which is still to be found in its simple form among American Indians and in Eurasia, among the Voguls, Zyrians, Lapps and others. The primary form of the trousers seems to be a pair of leggings sewed together—the legging is another type which is widely distributed in North Amerika—and the boots are supposed to have arisen from a combination of stockings and sandals. The latter are still sometimes worn by the Eskimos.

**The East Coast.** The fact that dresses here in some cases seem particularly old-fashioned as compared with the original cut in other places in Greenland, as well as with Eskimo clothing generally, is evidently caused by the isolated situation which has kept this region outside the reach of

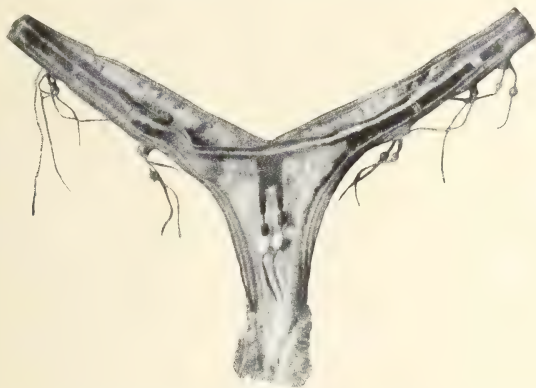


Fig. 27. Triangular apron, formerly worn by the East Greenland women as their only dress in the house. (National Museum).

many cultural waves. The women here use a garment which is not otherwise found in the Eskimo world, except at Kodiak in the Pacific, and which evidently is very old. It is a diminutive, triangular apron, simply a covering for the pudenda, and it is the only dress worn in the house. It is held fast by two straps round the waist and a third between the legs (fig. 27). In the cut of the Angmagssalik jacket, both of men and women, primitive features can also be seen. As far as the cut at Frederik VI Coast is known, it rather agrees with that of the west coast.

The every-day dress, both of men and women, is made of sealskin. On the upper part of their bodies the men wear a fur jacket with the hairy side inwards and provided with a hood. It is so wide that one arm can easily be pulled out of the sleeve and laid against the body, which is a characteristic Eskimo way of warming oneself. The lower part of the jacket reaches a little below the hips and is provided with edgings of bear-or dogskin, which prevents too strong a draught below the dress. Under-jackets may also be made of bird-or foxskins, which are both very warm, but at the same time very fragile and, as far as the latter are concerned, now naturally far too expen-



sive. Above the under-jacket a corresponding jacket is worn in winter with the hairy side outwards.

The under-breeches of the men are also made of sealskin, but with the hairy side outwards and often beautifully embroidered with skin-mosaic. They are very tight and so short that they are rather to be compared with a pair of bathing drawers. However, on trips away from the dwelling place,



Fig. 28. Women and children at Angmagssalik. (J. Petersen).  
Notice the way of carrying infants in the hood.

whether travelling or hunting, the men wear a pair of outer trousers of seal- or bearskin, reaching a little below the knees, where they are laced over the boots. The latter consist of a sealskin stocking with the hair inwards and the actual boot, which is made of waterproof skin in summer and in winter of hairy skin. The soles of the boots are made of the depilated skin of barbed seal, and the edges are bent up so that the seam is made to lie on top of the foot, which makes it less pervious to water. Between the soles of the boot and the stocking a layer of dry grass is placed. On the hands sealskin mittens are worn.

The dresses of the women resemble those of the men (fig. 28). The lower edge, both of the inner and outer jacket, is, however, provided with a narrow flap, in front as well as at the back, which is so long that in snowy weather

the front and rear flaps are tied together between the legs. Women with children have enormously wide hoods in which their babes spend the first year and a half of their lives, sitting on the naked back of the mother as against a natural hot water bottle. As the women cannot then pull the hood over their heads, a kerchief made of skin is wrapped round them. The jackets are frequently embellished with inserted strips of white skin, and ornamented with strings of beads. The outer breeches of the women reach above the hips, but only cover the upper parts of the thighs. Between the lower edge of the trousers and the bearskin edging on the high boots there is—which is extremely unpractical—an uncovered strip of the thigh, which only has a piece of skin wrapped round it in the severest winter.

The common sealskin dress is sufficient under ordinary conditions, but under special circumstances climate and mode of living make the use of other costumes desirable, and as the men are obliged to be out in all weathers, whereas the women can keep at home in houses or tents, it is particularly the former who are provided with special costumes. Both men and women have jackets made of vertical strips of gutskin which are made interchangeably translucent and dull white, the latter being obtained by drying in frosty weather. These jackets are worn in wet and damp weather, as well as by kayak rowers under the kayak jacket proper.

The kayak jacket is of a similar shape to the common sealskin jacket, but is made of waterproof skin. When this is fastened tightly with drawstrings round the face and wrists and round the kayak hole, the man and his craft make one whole, being able to brave the onslaughts of the sea without a drop of water penetrating under the dress. A double strap is tightened from the back of the jacket across the shoulders to a bone buckle in front, thus keeping the lower part of the jacket free of folds, in which the water might otherwise gather. In calm weather the so-called half jacket is used instead of the warm kayak jacket; it merely consists of a broad belt of waterproof skin which is laced tightly under the armpits of the man and round the kayak ring (cf. fig. 4). There is also a kind of quite short kayak jacket which is worn together with the half jacket; these jackets are made of white skin and, by their colour, are intended to cause the seals to mistake the kayaker for a lump of ice. With the kayaking costume also belong mittens of waterproof skin.

In summer when it is too warm to pull up the hood, foxskin caps are used with the tail of the animal hanging down the nape, or caps with very broad crowns and skin trimmings; that these caps are imitations of European sailors' caps is beyond a doubt.

When bowhead whales were still to be found off Angmagssalik, the man, before the whale hunt, generally put on a costume consisting of a waterproof sealskin jacket, mittens, trousers and boots all in one piece. He crept through a hole in front, and when this hole was tightly laced, there





Fig. 29. Man's dress of bearskin for hunting  
on the ice.  
(National Museum).

was a layer of air inside the costume which prevented the wearer from sinking if he happened to fall into the water in the course of the hunt.

Whereas the above-mentioned garments are chiefly meant for hunting in open water and are, therefore, mostly made of waterproof skin, there are other costumes which belong to winter ice hunting, and in the case of these an effective protection against the cold is the chief consideration. Angmagssalik entirely lacks reindeer, the skins of which are very light and warm and at the same time comparatively strong; fox- and hare-skins are also light and warm, but on the other hand, very fragile, and therefore for ice hunting the Angmagssalik Eskimos make not only trousers but also fur jackets, slip-over shoes and sandals of bearskin which, it is true, is warm but also very heavy (fig. 29). As however it



is necessary for the hunter to stand or sit quite immovable, when catching at the breathing hole, weight plays a secondary part.

In the spring, when the sunlight is reflected from snow and ice with a violence which may nearly hit one's sight as a blow, the eyes are protected by wooden snow goggles with narrow slits for the eyes (fig. 30). Another

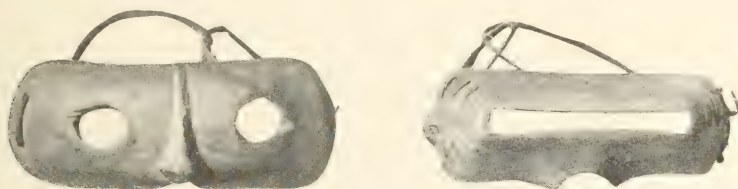


Fig. 30. Wooden snow goggles, Angmagssalik. (National Museum).

protection for the eyes are the eye shades which are also made of wood and which, with their inlaid figures of ivory, are often perfect masterpieces of art (fig. 31).

The women have less use for special costumes, but, on the other hand, they attach all the more importance to ornamentation. Not only are their

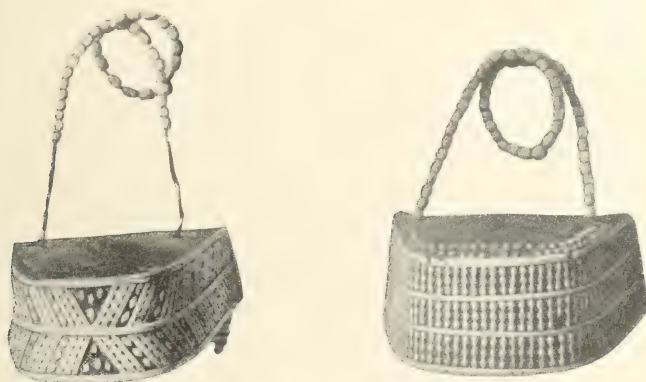


Fig. 31. Eye shades with mountings of ivory, Angmagssalik. (National Museum).

dressess trimmed with insertions of white skin along the seams, but they also have ear rings, strings of beads and bead-embroidered necklaces as well as skin bracelets. The beads are made of caplin vertebræ, some white, some dyed in blood, or of a special kind of green stone, the teeth of seals or tarsal bones of foxes.

However, the Angmagssalik dress as here described no longer exists. It chiefly belongs to the period shortly before and after the establishment of the trading post, but West Greenlandic fashions and the use of European textiles are now gaining more and more ground. The men of the present day dress rather like their West Greenland countrymen; as far as the women are concerned, the fur jackets have been retained, but as on the west coast

they have been made shorter in order that the chemise may be visible between them and the trousers.

On the **West Coast** the cut of the original costumes deviated, in some details, from that of the east coast, though in the main the composition and shape of the dress was the same; as to the material, the West Greenlanders had the advantage of being able to use reindeer skins. Still, numerous variations have gradually crept in, partly because some types of clothing have been entirely or almost entirely given up, while others have been introduced, and partly because the use of the individual pieces of apparel have undergone a certain change. As a matter of fact there are now only two common pieces of apparel left in West Greenland which can be said to be the original ones, *viz.* the boots and the women's trousers. This, it is true, must not lead one to believe that the other original garments have disappeared entirely without leaving any trace, but they are either of a special kind, such as kayak dresses, etc., or they are more or less rare, and frequently, at least as regards the material, have been replaced by imported articles.

Underwear, consisting of vest, shirt, or chemise, and drawers, is now everywhere on the west coast made of imported materials, and only here and there in the north do the men, under the kayak jacket, still wear an old-fashioned under-jacket of eiderduck skins, in order to avoid the unpleasant combination of textiles and skins. With this the men wear in summer a pair of common trousers made of cloth, and a jacket of dark blue or white cotton of the old cut, though somewhat simplified, *viz.* closed in front and provided with a hood (fig. 32). In cold weather they wear a Faroe woollen sweater and sometimes a cloth waistcoat between shirt and over-jacket, and a knitted kerchief round the neck. In more civilized places the Greenlanders wear knitted or cloth caps.

There are places in South Greenland where, owing to the scarcity of skins, the men must suffer badly from cold in winter, because this way of dressing is anything but Arctic. As far as possible they take care to have at any rate a pair of sealskin trousers. The cut of these is in the south an old-fashioned European one, whereas on the northern part of the coast they have retained the old feature that they only reach a little below the knee and are there lashed round the leg. In the severe winters of the north some also use trousers of deer- or dogskin, and since the communication with the Polar Eskimos has become more lively, there are a few of the more well-to-do who indulge in the Smith Sound luxury of bearskin trousers.

Over-jackets of sealskin are now hardly to be found anywhere on the southern part of the coast, but they are common in the north, particularly in more remote regions. However, the climate is even there so cold in winter that still warmer skins are preferred, first and foremost naturally the excellent, light deerskins. In the absence of these, recourse is taken to dogskins or, though very rarely, birdskins with the feathery side outwards. The

latter kind of jacket must not be confused with another type of over-jacket which is mostly used south of Disko Bay; in its original shape it is nothing but the old under-jacket of eiderduck skin with the downy side inwards, but now it is provided with a collar and cuffs of dogskin and is worn together with the cotton jacket as an over-jacket above the underwear.

The special hunting costumes of the men are naturally much less changed

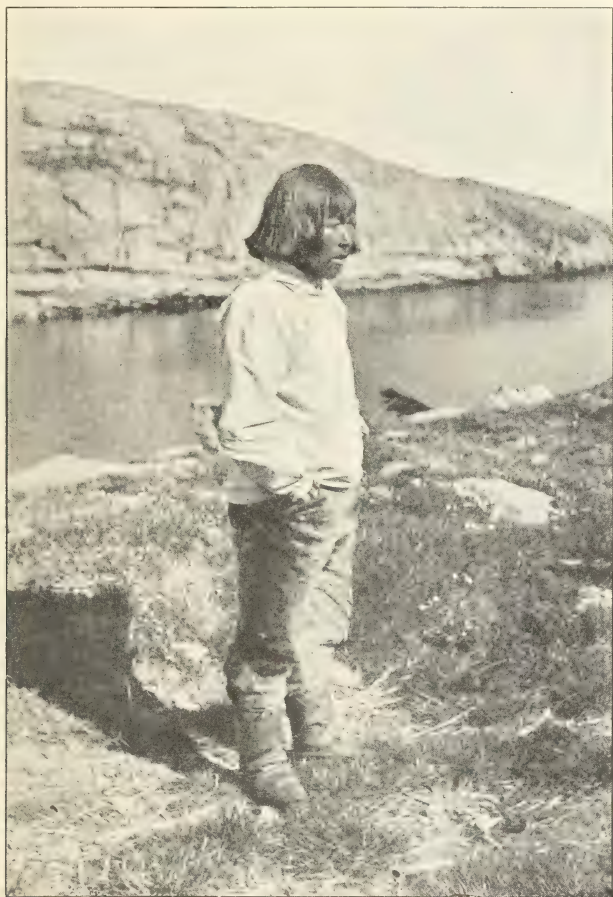


Fig. 32. The modern male summer dress, consisting of a cotton jacket and trousers and boots of sealskin, Egedesminde District. (Birket-Smith).

by European influence, because they are in themselves an adaptation to geographical environment and so cannot easily be replaced. It is true that the combination suit has disappeared entirely with the cessation of whaling, but until a few years ago a waterproof "hose," *viz.* trousers and boots made out of one piece, was used, when, for instance, during the salmon season the wearer was exposed to getting wet. Gutskin jackets have now also disappeared, except perhaps in one or two very isolated places. On the other



hand, kayak jackets, half jackets and kayak mittens of waterproof skin are found everywhere (fig. 33), of the same type as at Angmagssalik; also

loose sleeves to be used together with the half jacket, as well as trousers of waterproof skin. Slip-over shoes are sometimes used for sledging. Sandals of long-haired dogskin are tied under the feet for smooth ice hunting in order to prevent the seal from hearing the hunter approach. The eyes are protected by snow goggles and eye shades, but the former are very rarely of the original type, and the latter often merely consist of the peak of an ordinary cap.

One of the most graceful sights in Greenland is a bevy of young girls in the mountains. The gaily coloured costumes light up the murky heath as bright flowers, while their wearers move about with the easy certainty which is the combined result of the practice of childhood, the soft-soled and serviceable boots, and the lack of impeding petticoats. In winter this picturesque costume unfortunately has certain drawbacks. It is far too cold with its seal-skin boots, the "smart" open space between breeches and jacket and its rudimentary hood, and only far too often the bird-skin jacket, by reason of poverty, has been replaced by a baize jacket. In winter the women are



Fig. 33. Man's kayak dress of waterproof sealskin, Egedesminde District. (National Museum).

tied to the dwelling place and the heated houses and cannot, like their less civilized sisters, join the men on sledge journeys, a circumstance which very likely has contributed somewhat towards decreasing the hunting radius of the men.

In West Greenland the boots of the women are a little longer than those worn at Angmagssalik and are made of depilated and dyed skin, as a rule dark-red or purple for young girls, and buff, purple, or black for the older women, and frequently very tastefully ornamented with skin-mosaic. Young girls also have white half boots, the upper part of the skin stocking being covered by a crocheted or embroidered piece. The trousers are made of sealskin or more rarely deerskin and have retained their old shape far better than the breeches of the men. Their lower edge is above the knee, and at the waist they just reach *trochanter major*. He who, for the first time, sees a West Greenland woman bending, invariably fears a catastrophe. All young women, with the exception of the very poorest, have vertical strips of uncommonly beautiful skin-mosaic on the legs of their sealskin trousers, and in some places along the central coast there is a corresponding horizontal pattern on the inner sides of the legs.

In summer the women only wear a kerchief and a cotton or silk jacket of gay colours over their chemise.

In shape this jacket is like that of the men, though with the difference that the hood is quite small; below it is ornamented with a broad, gaily coloured ribbon, and it is so short that the chemise may peep out between it and the trousers. Under this they wear in winter a birdskin jacket with a tall, up-standing dogskin collar, from which a large bead collar in tasteful patterns hangs over the shoulders of the cotton jacket (fig. 34). Also at the waistbands there is sometimes beadwork. As mentioned above there are, however, several localities where the women must content themselves with baize instead of birdskin jackets. The only kind of sealskin or deerskin jacket which is still used by the women of West Greenland



Fig. 34. West Greenland girl with birdskin jacket and sealskin trousers and boots, Julianehaab District. (K. Stephensen).

is the so-called *amaut*, the hood of which is arranged for the carrying of infants, and even this is only seen in the northern part of the coast (fig. 35).



Fig. 35. Women's dress of sealskin, Egedesminde District. (National Museum).

The jacket is a so-called *amaut*, used for carrying children.

#### In The Thule District

the cold is so severe that sealskin costumes can only be used for a short part of the year. Only during later years have the inhabitants been able to use deerskin—the best of all skins for this purpose—and so their clothing is based upon other materials. The most important of these are the skins of Polar foxes, and fashion strictly demands that they must be of the blue, not the white variety. Also hareskins and bearskins are used. The skins of musk-oxen, which are now no longer to be had, were less used, for while being just as warm as bearskins they are also just as heavy and almost impossible to keep free from blood and dirt.

Nearest the body men as well as women wear a jacket of murre or dovekie skins; the latter are the softest, but as many as a hundred birds are required for one jacket. Over this is worn, according to the season, an over-jacket of sealskin or foxskin, or more rarely of deerskin. The shape is the usual one with a hood, and flaps below, one in front and one at the back. The flaps are longest on the

women's jackets, which otherwise for the sake of ventilation are so short that one unvariably sees a woman's naked flanks whenever she bends down; in severe cold a belt of foxtails is worn. The jackets of the men



as well as their mittens, which are made of hairy sealskin, are edged with a narrow strip of bearskin.

The trousers of the women, like their jackets, are made of foxskin and just as short as the type used at Angmagssalik, but as contrasted with the boots used in that locality, the boots are here so long as to cover the greater part of the thighs. These enormous, stiff boots of white sealskin with hare-skin stockings are the least becoming part of the costume; all Polar Eskimo women look as if they have elephants' legs! The breeches of the men are of bearskin and only cover the part between the knee and *trochanter major*, as the stiff material would be an obstacle if they were carried higher up. With these breeches correspond white sealskin knee boots with hareskin stockings.

Special hunting garments play no great part in the Thule District. As a further protection against the cold they use slip-over boots, made of the skins of bears or musk-oxen. They naturally also use snow goggles, but no eye shades. When hunting musk-oxen the men in former times tried to decoy the animals by wearing caps of the same skin. When considering the small importance of kayak hunting, it is not to be wondered at that the Polar Eskimos lack everything in the way of kayak costumes and similar garments made of waterproof skin. On the other hand, gutskin jackets were formerly not unknown, and I have been told by a hardly middle-aged Polar Eskimo of unimpeachable veracity that in his childhood he had seen such a garment.

## ECONOMIC LIFE.

### LEADING PRINCIPLES.

**Occupations and Environment.** It sometimes happens that a single word, as it were at a blow, opens vistas which may place a matter in the proper light. How far removed is the idea expressed in the Greenland *angut*, man, from the one underlying the Roman *vir*, the former being of the same root as *anguvoq*, hunts, pursues (an animal) and the latter related to the German *Wehr*, (*i. e.* defender or means of defence). In Greenland the man is the independent bread-winner, in Europe the dependent unit, the soldier, whose task it is to guard the interests of the state. In a poor country the adaptation of occupations to environment becomes the one thing needful; the primitive, direct struggle for food forms the basis of existence, and the killing of fellow-beings is left to the more enlightened stages of civilization.

Living as they do on a narrow strip of coast, with the inland ice back of them and the sea in front, it is to the latter that the Greenlanders turn for the supply of their requirements. The fact that their existence is throughout based on hunting and fishing, or on what may be termed destructive economy, is, however, primarily due to cultural presuppositions

and only as far as the northern regions are concerned, also to the geography of the country. For, however poor the latter is, there are still farthest south a few regions where it has been proved that a more rational production can be attempted with success.

From seal, walrus, and whale, the Greenlanders obtain their principal food, blubber for lamps, skins for clothes, boat coverings, sealing floats and thongs, partly also sinews for sewing thread, and bone and ivory for implements. There is extremely little of a sea mammal for which no use *can* be found. In the original Greenland society the seal was of most importance, walrus and whale only occurring locally or intermittently, so that they could merely serve as supplements. This originally also applied to the hunting of various sea birds and to fishing as well as to all hunting on land, first and foremost of reindeer and ptarmigan, and in a still higher degree to the gathering of berries. Everything else failing, the Greenlanders, as a last resource, take to fishing the lean and bony sea scorpion and to gathering mussels and edible seaweeds, but this is more or less considered starvation fare.

Under these circumstances the economic unity would, in the first place, be the family; every family supplied its own needs and was independent of others. The trade which was carried on, also in the original Eskimo community, was not very important from an economic point of view, and was essentially a secondary result of the hunting expeditions. If the mutual trade between the various groups of Greenlanders had suddenly been stopped, this would, it is true, have implied certain drawbacks, but it would not have led to any actual revolution of the economic life.

**Danish Influence.** The basis of the Danish colonization in Greenland is trade. Like the European colonies in the civilized countries of the Far East, Greenland is a trade colony, where the produce of the native population is exchanged for European merchandise. It goes without saying that this has played its part in the whole of the economic life, but it should be emphasized from the start that, from the very days of Hans Egede, the steps taken by the Greenland administration have nearly always been dictated by consideration and care for the well-being of the Greenlanders, and in this respect the private company which carries on the trade with the Polar Eskimos has not been behindhand.

The first great revolution in the life of the Eskimo hunter was brought about by the introduction of firearms. In the southern province 57 per cent. of the male population of more than twelve years of age in 1923 possessed rifles, while 60 per cent. owned shotguns. In the northern province 80 per cent. were provided with rifles, but only 31 per cent. with shotguns, and then this latter figure only becomes so high, because in the Egedesminde District there are about the same number of shotguns as in the southern regions. The difference between the number of rifles found in the two provinces is

due to the fact that the harpoon is more widely used in the south, where the hunting from kayaks is particularly important and is, furthermore, frequently pursued in a rough sea, while conversely on account of the greater importance of bird hunting the shotgun is most prevalent in South Greenland. In the Angmagssalik District 80 per cent. possess rifles and 19 per cent. shotguns, or in other words a similar proportion to that found in certain districts on the northern part of the west coast. From the Thule District no definite figures are at hand, but most of the grown-up men own rifles.

In the Angmagssalik and Thule Districts the influence exercised by the Danes on the economic life of the Greenlanders is least noticeable, partly because it has been of so much shorter duration, and partly because it has profited by the experiences gained in the course of two hundred years on the west coast. The products upon which the existence of the Greenlanders depends, such as blubber, sealskins and the like are not traded at all or only to a very small extent, and buying is in the main limited to such commodities as are rather to be regarded as luxuries, *viz.* fox- and bearskins, narwhal tusks, and the like. It is a matter of course that the hunting which is to supply these products has attained added importance to the Eskimos, and has in part developed into a mercantile enterprise, but apart from this the change from original economic conditions is not great.

On the west coast the influence exercised by the Danish colonization, directly as well as indirectly, has been much more profound. Also here the idea was, in the first place, that the expenses of the colonization should be covered by the proceeds of trade; but as contrasted with the two places mentioned above, the exports from West Greenland also largely comprised blubber and sealskins, two articles of absolute necessity to the primitive Eskimo life, and besides many European articles of food were imported, such as ground and unground cereals, dried peas, hard tack, rice, sugar, coffee, tea etc. This fact, of course, has contributed towards changing original economic conditions, and in certain cases it has led to the Greenlanders disposing of skins and blubber which, strictly speaking, they could not very well do without, in order to get the coveted European articles.

If no other elements had made themselves felt, this would, however, only have been a sort of childhood's malady which by itself could never be dangerous, as the Government in this respect has generally proved alive to its responsibility. But there are other results of colonization for which the Government is hardly responsible and which are infinitely more fatal. Generally speaking, seal hunting in the most northerly part of the west coast has increased, if not quite proportionately to the population, whereas towards the south it has decreased immensely, although the population there has also greatly increased. It cannot be said for certain what is the cause of this pitiable state of affairs; in all probability it is due to an interplay of various factors, some of the most important being the brutal massacres by foreign



sealers in the breeding grounds, and the increasing preference shown by the Greenlanders for the use of rifles instead of harpoons, rifles both frightening the seals and causing many to escape or to sink. As to the hunting of reindeer, the great demand for deerskins, about 1840, resulted in reckless killing, and the consequence was that in the course of a few years the profit dwindled rapidly, and the stock of deer suffered a setback, from which it has never been able to recover. Thus, on Disko Island and in the Julianehaab District reindeer are entirely exterminated. In the same manner thoughtless plunderings of birds' nests in order to obtain down and eggs, combining in later years with a wild shooting of birds to meet the requirements of the rug industry, has greatly decimated the number of eiderducks.

However, for the greater part of West Greenland the idea has always been that the old national occupations, especially seal hunting, should remain the basis of the economic life of the population. An exception from this rule has only been made in two places, *viz.* Holsteinsborg and Godhavn, where the hope of establishing a profitable whaling industry made the Government break its principle. As early as in 1724 Hans Egede succeeded in founding a whaling post at Nipisat Sound in the Holsteinsborg District, but not until the last decade of the 18th and the first third of the 19th century did whaling reach its climax, being carried on from boats, stationed in the country, at first with Danish, later on almost exclusively with native crews. But the long cruises withdrew the population from sealing which requires constant practice, and when the whaling industry gradually languished, the serious problem arose of providing means of subsistence for the population who had now become unused to sealing.

At Disko Bay conditions were most favourable as the winter ice there permitted the cultivation of sealing by means of nets, which method is of Eskimo origin, but seems to have been very little used before the colonization. Hunting by means of nets does not require special qualifications on the part of the hunter, and in great parts of northern West Greenland it has now become the principal form of winter sealing. In the Holsteinsborg District seal nets are also set under the ice, but here, at the southern limit of the sledge, this means of conveyance cannot be used so freely as to permit the Greenlanders to tend as many nets as are necessary in order to make sealing really profitable. In these parts special importance has consequently lately been attached to the fishing of cod and halibut.

These fisheries are old, but are now carried on upon rational lines, and here we are confronted with another and brighter side of the Danish influence, which is, fortunately, not merely negative. Comprehensive steps have been made towards encouraging a number of more or less novel occupations in West Greenland. Quite naturally it was fishing which was first made the object of rational encouragement, being an occupation with which the Greenlanders were already familiar, and which, on the other hand, does

not require too much by way of physical fitness to prevent people, who because of some weakness or other are cut off from sealing, to carry it on profitably. In 1908 and 1909 Ad. S. Jensen, on board the *Tjalfe*, undertook a number of investigations of the biology of the Greenland fish, and these investigations which, as it were, broke entirely new ground were continued in 1924 by Å. V. Thåning, on board the *Islands Falk*, and resumed in 1925 by Ad. S. Jensen on board the *Dana*, while at the same time efforts have been made to further the development of fishing by the introduction of improved instruments and methods, as well as by the appointment of Danish fishermen as teachers for the Greenlanders. Scattered between Agto in the Egedesminde District and Sangmissoq in the Julianehaab District there are now no less than twenty-six posts for the buying, preserving and salting of fish, particularly Greenland halibut, but also cod, ordinary halibut etc., and it also seems probable that the export of Norway haddock could be taken up with profit, provided that it were possible to create a market for this extremely palatable fish. At Jacobshavn particularly the Greenland shark plays a great part, but it is also common in many other places, and of later years this fishery has improved enormously in South Greenland. The meat of the Greenland shark can only be used for dogs' food, but the fat liver yields 50 per cent of oil.

Artisans in the ordinary sense of the word did not exist in aboriginal Greenland, and even to this day can hardly be said to exist. The faint attempts at domestic industries have been encouraged by the buying of bird-skin rugs which was begun in 1903; but the result is that the stock of eider-ducks has already now dwindled so considerably that the Greenlanders, in a constantly increasing degree, are forced to hunt the Brünnich murre and even the small dovekie, and the prospects for this occupation do not look very promising.

Whereas the occupations mentioned above are a further development on the original Eskimo basis, cattle rearing is tantamount to an actual break with Eskimo culture and tradition, a revolution from the exclusively "destructive economy." In the first place the keeping of domestic animals was not introduced with a view to the native population, whose only domestic animal, the dog, was used as a means of communication and only indirectly benefited the economic life; but it was only natural that in the 18th century, with its vivid interest in everything pertaining to the common weal, the possibilities of cattle rearing were also investigated in the regions where the old Norsemen some centuries ago had had their farms. In 1782 the first three calves were sent up to Julianehaab, thus making the foundation of the Danish live stocks in that part of Greenland, and shortly afterwards Anders Olsen, the founder of the colony mentioned above, caused the spreading of cattle also to the Greenlanders. Married himself to a native woman he obtained permission to settle as sheep and cattle rearer at Igaliko

where at one time the Bishops' See of the Norsemen had been situated, and in this locality his numerous half-breed progeny have kept up cattle rearing. Also in a few neighbouring places this occupation has been taken up by the Greenlanders. Still, there is no doubt that the prospects of sheep farming are far brighter than those of cattle breeding. Since 1906 attempts have been made at rational sheep farming, first at Frederiksdal, and later in an extended form at the settlement. Goats are kept on a smaller scale.

#### *ECONOMIC METHODS.*

**Seal Hunting from Kayaks** is still the principal occupation in Greenland as a whole, although the farther north we get it is in an increasing degree replaced by other hunting methods. This particularly applies to the Thule District, where there is only open water for quite a short period, and where hunting from kayaks was only introduced, or rather re-introduced, by the immigrants from Baffin Island in the sixties of last century. The kayak implements in this district consequently conform with those of the Central Eskimos, being fewer and, on an average, less specialized than those of the remainder of Greenland.

From kayaks are hunted all species of seals, as well as walrus, narwhal, white whale and porpoise. The chief thing is to "anchor" the animal so as to prevent it from escaping, before the hunter proceeds to kill it. For this purpose various types of harpoons are used, the greater part of which are provided with loose toggle heads, which separate from the foreshaft, when the animal is hit, and are lodged crosswise in the wound, holding the animal fast to the large sealskin float, by means of a long sealskin thong. Only unskilled hunters and half-grown boys have harpoons without floats, but with a short line attached to the middle of the shaft.

The kayak harpoon is an implement which bears the stamp of the care and forethought of generations; every detail has its significance, and all proportions are carefully balanced in relation to each other. The toggle head (fig. 36) consists of a body made of antler, walrus or narwhal tusk, which is now always armed with an iron blade, but was originally provided with a blade of hard bone or stone. On modern West Greenland harpoon heads the body is always flat and broad, and the line channel, to which the line is attached, opens with two holes beside each other on the belly. The size of the head varies a little according to the species of animal hunted, but the West Greenlanders calculate that the bone body of a common sealing harpoon should be capable of lying hidden in the closed fist. For small species of whales, the skins of which are less tough, the harpoon head is made somewhat larger. In order further to secure the hold, in West Greenland the harpoon head is often, but not always, provided with two strong, lateral barbs. In the Godthaab District the type most commonly used is



provided with a single lateral barb, such harpoon heads being particularly fit for the catching of white whales. In West Greenland the rear part of the body terminates in one or two spurs, acting in the same manner as the barbs. Single spurs are generally placed dorsally, rarely laterally, and are common in the Sukkertoppen District and farther south. In the northern districts there are just as frequently, or more frequently, two spurs, placed dorsally or dorso-laterally. In front of the spurs there is a basal socket for the fore-shaft.

The harpoon heads from Angmagssalik resemble those of the west coast, but the iron blade is longer and narrower. The body has a typical



Fig. 36. Heads of sealing harpoons, West Greenland. (National Museum).

termination, *viz.* two lateral spurs and frequently two lateral barbs, though the latter may also be entirely absent. White whale and narwhal hunters of the Thule District use harpoon heads which are flat and broad like those described above, but a little larger. They have no barbs, but on the other hand they are provided with two dorsal spurs with notched points. The harpoon heads used by the Polar Eskimos for walrus and seal are, on the other hand, narrow and, as it were, compressed; the line channel passes directly through the body instead of having openings beside each other on the belly; there is a single dorsal spur, but no barbs. This type of harpoon head must be considered an old one, having also been used elsewhere in Greenland in the past, and being a common type everywhere within the Eskimo area outside this country.

The harpoon head is attached to the harpoon line, a seal thong about 15 m long. The Polar Eskimos, who more frequently hunt large sea mammals than the other Greenlanders, have for this reason a line which is not only broader and heavier, but also longer by a third of the entire length. The front part of the line is passed through the line channel of the head, and by the aid of sinew thread sewed and lashed together into a loop. Somewhat behind the loop there is a small bone buckle with three or four holes. The line is passed through the front hole. The others are meant to be buttoned on to

a small bone peg on the harpoon shaft, so that the line can be sufficiently tightened. The different holes permit the hunter to use his preference, according to whether the line is moist and slack or dry and shrunk. Similar buckles are used at Angmagssalik and Thule. The line terminates in a bone toggle the object of which is to hold the float.

The float is made of the skin of a fiord seal or a young saddleback which is stripped off so that, besides the natural openings of the animal, there are only holes at flippers and neck. All holes are filled carefully with flat wooden stoppers or lashed together, with the exception of one into which a short bone tube is inserted, by means of which the float can be inflated. In certain

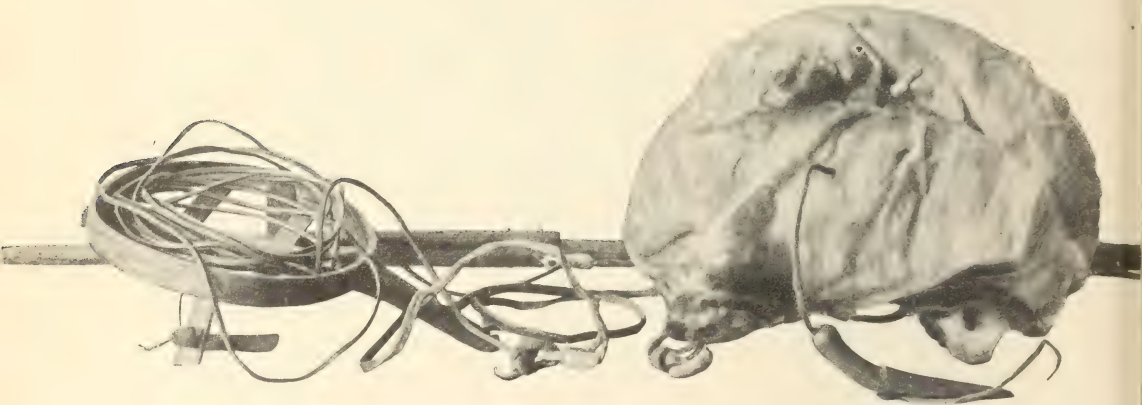


Fig. 37. Sealing float, attached to the harpoon line, and kayak stand, Angmagssalik. (National Museum).

places in Greenland the float is curved so as to permit the water to pass freely under it when resting on the kayak deck; by this means the skin is kept from rotting. On the northern part of the west coast, as far as south of Sukkertoppen, floats of dark skin are used; farther south, however, they are of light skin. Very nearly in the same place we have the division line between the two types of holders which are passed under the kayak strap in order to secure the float when not in use. In the northern parts they consist of a bone angle which is placed on the under side of the float, in the southern they consist of two foot-shaped wooden pieces. The latter yield a firmer hold in a rough sea such as is frequently met with in the south, but also make it more difficult to tear loose at the critical moment.

The Angmagssalik float (fig. 37) is of the same type as the float used on the southern part of the west coast, being made of light skin, short and curved; on the east coast hunters also use a double float (cf. fig. 3) so as always to retain one half, even if the other is torn by the animal, and furthermore the hunter is able to rest his left elbow against the space between the two halves, when inflating the killed seal floating beside the kayak. In spite of its advantages the double float is passing out of use, partly because it is

more difficult to make, but in all probability also because it is unknown in West Greenland which generally sets the fashion.

In principle the float in the Thule District is the same as in the remainder of Greenland, but in shape it deviates from the other by the harpoon line being attached to the rear part of the skin and not to the neck, and the claws are left in it. In order further to check the movements of the animal—we must all the time bear in mind that the Polar Eskimos by preference hunt large sea mammals, and that their kayaks are less rapid than those of the west coast and Angmagssalik—a drag is flung into the water simultaneously with the float. It consists of a square, skin-covered frame which is trailed at a distance of 3 to 4 m behind the float and is attached to the latter by a strap in the same place as the harpoon line.

If the Eskimo manner of securing the prey may be termed most ingenious, this is no less true of their measures for preserving their implements intact. In order to achieve this result and at the same time to facilitate the sliding out of the harpoon shaft from the wound, the shaft is divided into two pieces, a foreshaft and the shaft proper. The foreshaft is a short and slender cone, generally made of walrus or narwhal tusk though sometimes of antler, and it is only made fast to the wooden shaft by a tight strap. At Thule as well as at Angmagssalik the foreshaft at the back terminates in a small peg, fitting into a corresponding cavity in the ivory mounting which protects the front part of the wooden shaft from being splintered. In West Greenland, in the course of the last century, the peg has been moved to the mounting, and the cavity is placed on the foreshaft. The effect is in both cases the same. While the harpoon is being thrown, the foreshaft forms a continuation of the actual shaft, but as soon as the animal is hit, its movements, in conjunction with the great weight of the shaft, will cause the foreshaft to be broken off, and while the head remains in the animal, the shaft slides out and floats on the surface of the water, undamaged, until it is picked up.

At Thule the foreshaft is rather heavy. When wounded, the walrus like the bladdernose proceeds to attack, not only the hunter, but also the hunting implements, and therefore it is of no use to make the latter too slender. In the shaft there is a bone peg to support the fingers when throwing, and close to this there is another peg to which the above-mentioned buckle on the harpoon line is buttoned fast.

On the west coast and at Angmagssalik two different kinds of harpoon shafts are used, some preferring the one, others the other. The so-called winged harpoon is a local Greenland type with a rather slender shaft, about 1.5 m in length and terminating in two freely projecting, elliptic bone "wings" (cf. fig. 2). Without being the type used anywhere exclusively it is most common on the central west coast (the Sukkertoppen, Godthaab and Frederikshaab Districts) and originally seems to belong there. The knob





harpoon, on the other hand, has a somewhat heavier shaft, frequently 2.5 m in length, and terminating in an ivory knob (fig. 38). Both kinds of shafts have a lateral bone peg for the buckle of the harpoon line and another peg round which the line is passed, so as to prevent it from turning the head aside. There are also two short straps in which the harpoon can be suspended on the side of the kayak, but no support for the fingers while throwing.

The reason for this is that outside the Thule District the harpoon is always thrown with the throwing board, the peculiar, old-fashioned implement which occurs sporadically in many parts of the world, but which is particularly suited for hunting from kayaks, because the use of it only requires one arm. When the harpoon is thrown, the board is held in the hand, thus acting as a prolongation of the arm. It is a flat board, tapering at the back and on its upper side provided with a groove in which the harpoon shaft rests. In front and at the edges there are one or two incisions for the fingers. All knob harpoons and most winged harpoons in West Greenland have throwing boards which are "buttoned" on to the harpoon shaft, there being two small bone pegs on the latter which correspond with two holes in the throwing board. The knob harpoons at Angmagssalik are arranged in a similar manner, while, on the other hand, the winged harpoons there, as also in several cases on the west coast, instead of the hindmost hole, have a hook which fits into the cavity between the wings of the shaft. This is evidently the older type of this weapon.

The kayak stand should be mentioned as another accoutrement for the harpoon. It is a receptacle on which the line lies carefully coiled, so as not to be in disorder at the decisive moment, which would almost inevitably lead to the kayaker being capsized and drowned. In the Thule District there is no special kayak stand. The common type in West Greenland and at Angmagssalik is raised above the deck by means of three legs and consists of a bone ring with small bone props from the wooden middle piece. A plainer type, which is used at Angmagssalik, lacks the bone ring.

Fig. 38. Shafts of knob harpoons with throwing boards attached, Angmagssalik.  
(National Museum).

In West Greenland and Angmagssalik, but not in the Thule District, there is, besides the toggle harpoon, a barbed harpoon or so-called bladder dart, the head of which is not meant to lodge itself crosswise in the wound, but to hold the animal fast exclusively by means of the barbs. Therefore, the head is long and frequently provided with several barbs arranged in a row. It is now made of iron inserted into a small wooden footpiece which, by means of a short line, is attached a little behind the middle of the wooden shaft. Here there is further an inflated bladder, made of the gullet of a sea gull or cormorant. The shaft is rather short and slender, and it is always used with a throwing board. This implement is far less effective than the toggle harpoon and can only be used for small seals. It is, therefore, no wonder that it is now passing out of use in West Greenland and more particularly in the north, where hunting from kayaks is of least importance. In the region round Cape Farewell, however, I found it on almost every hunter's kayak as late as in 1912, and in the Godthaab District it has been revived during later years owing to the hunting of white whale, partly because the implements are often destroyed, and the hunters therefore are loth to risk their toggle harpoons, partly also because it requires greater practise to use the latter.

After the seal has been harpooned, it is wounded again and again with the great lance (fig. 39). The lance is therefore arranged so as to slide out of the wound, and for that reason it never has barbs like the harpoon head. As it is essential to penetrate far into the vital parts of the animal, the blade is lodged in a long foreshaft of antler or (where this material is lacking, as in the Thule and Angmagssalik Districts) of iron, inserted into a wooden foot piece. Like the foreshaft of the harpoon, this foreshaft is loosely jointed to the shaft so as to "break" as

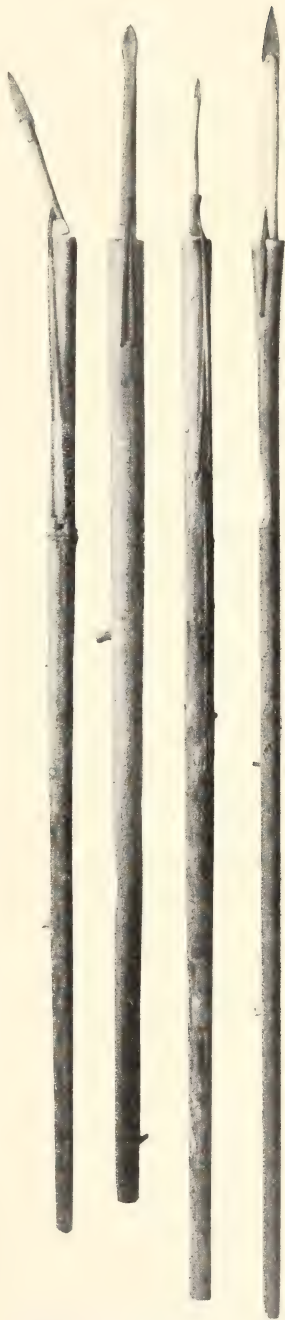


Fig. 39. Sealing lances from Angmagssalik. (National Museum).

soon as the animal is hit. The Polar Eskimos throw their lances with the hand only; the same happens in a few places in West Greenland and at Angmagssalik, but here lances with throwing boards are now far more common, although the distribution of this type only seems to have begun in good earnest during the last century and a half. The long throw obtained by means of the throwing board is preferred, although there is the disadvantage attaching to the latter that it freezes to the shaft, when the lance is covered with ice. In the Thule District and some places in West Greenland a small bladder is placed on the

lance shaft for the hunting of white whale. When a bear is encountered swimming, it is killed with the lance.

If the lance should really break, as frequently happens when hunting bladdernose for instance, the West Greenlanders in some places — though curiously enough not in the Julianehaab District, where the bladdernose is the chief animal captured — have a reserve lance head. It consists of an iron blade, inserted into a conical bone body, very nearly like a harpoon head without barbs and spurs. It is placed on the harpoon shaft and attached to the lashings of the foreshaft with a strap.

When at last the seal is exhausted with the lance throws, it is given its death stroke with a hunting knife or with the so-called small lance. Small specimens of this weapon are not very different from long hunting knives (fig. 40). They have a pointed iron head, firmly lodged in a long wooden shaft, hardly one metre in length, and to prevent the blade from damaging the kayak cover,

it is generally covered by a small wooden sheath. Further, at Angmagssalik and in the southern part of the Julianehaab District, a peculiar stiletto of wood or bone is used.

When the seal is killed, in West Greenland and at Angmagssalik the wounds are stopped with wooden plugs to prevent the blood from running out. In West Greenland these plugs are now only common in the south. If the intestines of the animal come out of the wound, they are cut off or pressed back, and for this purpose the Angmagssalik Eskimos have a special wound trimmer made of bone and with one or two notches at the point. Then the seal is inflated with air to make it lighter, and it is now ready to be towed home. For this purpose the Polar Eskimos use a bit of common seal thong. At Angmagssalik and on the southernmost part of the west coast short straps are used with toggles consisting, for instance, of bear teeth, and a

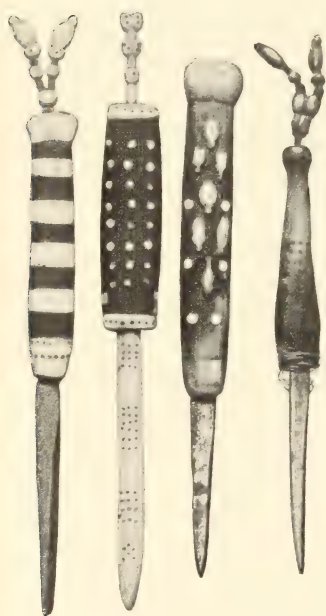


Fig. 40. Hunting knives.  
Angmagssalik.  
(National Museum).



wooden handle, which is passed under the kayak strap. In other places along the west coast, the towing implement is more intricate (fig. 41). It consists of a seal thong, 3 m in length, with a toggle at each end; one toggle is passed through a hole from the palate of the seal to its eye, and the other in under the skin below the throat. Close to each toggle there is a bone block which is pushed in under the kayak straps in front of the manhole, and in a loop midway in the towing strap a hinged toggle is suspended which is lodged in the skin at the navel of the animal, as well as a piece of bone or ivory, which is pushed in under one of the kayak straps behind the manhole. In this manner the seal is made to float close along the port side of the kayak, thus causing least trouble. In order that it may be held up or made to float, while the hunter pursues a new prey, a towing bladder is used, made like the bladder for a bladder dart, but provided with a toggle for lodging in the animal.

At Thule and Angmagssalik practically all hunting from kayaks is carried on with the old implements only. Since about the middle of the 19th century it has become general along the west coast to shoot seal from kayaks, a new kayak implement has come into use, *viz.* the rifle bag, which was invented in the sixties of last century in the Ũmánaq District. Upon the whole it seems, as is only natural, that it was in the quiet and sheltered fiords of the northern part of the west coast that the rifle was first used from kayaks. The bag in which it is placed on the front part of the kayak deck is made of water-proof skin and open at the back, where it is raised a little by means of a small wooden stand to prevent the water from getting into it. In former times the hunter frequently had his rifle lying inside the kayak with the muzzle towards himself, and when he had to pull it up in front of him through the manhole, accidents frequently



Fig. 41. Towing tackle,  
Egedesminde District.  
(National Museum).

happened. Consequently, it is with good reason that the use of gun bags has been made obligatory.

Another modern kayak implement, though older than the rifle bag, is the shooting screen, which also originated in North Greenland. It consists of a rectangular piece of white calico extended between two horizontal sticks which are placed in various ways either on the stem of the kayak or on a long pole attached to the kayak stand. When the shooting screen is put up, the front view of the kayak at a distance bears a striking resemblance to a piece of drift ice, particularly when the hunter himself is dressed in a white calico jacket, and in this way it is possible to come quite close to the seal without being seen.

If, in the early morning before the hunter starts on his expedition, we glance over his kayak, we find everything in its appointed place. The harpoon is suspended in its straps, on the right side of the kayak, with its head turned backwards. When it is placed like this, the water can run over it all the time, so that at the critical moment the throwing board will not be too tight owing to dryness. The harpoon line lies carefully coiled on the kayak stand in front of the hunter, and from there it passes, to the right of him, to the float, which lies on the deck behind the manhole. The great lance is placed aft to the left, with the head towards the stern. The right side of the back deck is free, in order that nothing should obstruct the float when thrown. To the left, on the front deck, lies the bird dart, with the head pointing forwards. Directly in front of the hunter, hunting knife and kayak scraper have their places. If the hunter uses the small lance, it lies to the right of the bird dart. The rifle bag is also found on the front deck to the right; the towing tackle lies at the bottom of the kayak. In fine weather the hunter puts up the shooting screen before leaving the dwelling place. Otherwise it is only put up at the hunting ground, being placed on the head of the lance and thus pulled across the stern.

When the hunter arrives at the place where he knows the seals are to be found at that season, he notices the direction of the wind and paddles gently about with frequent halts. For seal hunting with rifles it is only necessary that the head and neck of the animal should be above the water. The hunter is most certain of his prey when directly in front or behind it. However, the seal may assume many positions in the water, and not all equally good, when the hunt is practised with harpoons. The most favourable positions are when the seal sleeps with its back above the water or floats with its belly upwards; the less favourable when it swims or stands upright in the water, and the most unfavourable when it stands upright with its head bent strongly backwards, so that only the breast is visible. For walrus the best positions are when it has its back above the water or stands upright; when it lies with its belly upwards it is extremely dangerous for the kayaker to approach it.

When the hunter has discovered a seal, he places the harpoon on the

right deck of the kayak and then cautiously paddles as close to it as he can, if possible facing the wind and having the sun at his back. A strong man can at most throw the harpoon about 18 m, and harpooning is best done from behind. When he has come sufficiently close, he turns the kayak slightly to the left, throws, catches the throwing board between his teeth with a lightning movement, and flings the float far out to the right. The lance is then laid in the place of the harpoon and is used repeatedly. At last the dead seal is hauled up on the side, inflated, and the towing tackle attached. Har-



Fig. 42. An East Greenland Eskimo seizing the harpoon from the deck of the kayak. (J. Petersen).

pooning is chiefly practised in a rough sea, when the hunter can get close to the seals, and also when they return from their mating migrations and are so lean that they sink when shot. In a calm sea, and when the seals are fat, the rifle is preferred. Sometimes the seal is wounded with shot in the nose, so that it is forced to rise frequently to the surface, in which manner the hunter can come sufficiently close to thrust the harpoon into it.

Few nations have such a dangerous everyday occupation as the Greenlanders, and as a rule the hunter must rely upon himself in his struggle to obtain food, a struggle which is equally trying to the nerves, whether dangers threaten from calving glaciers or from the fierce onslaughts of a wounded walrus or bladdernose. Only rarely is kayak hunting practised by many together, as when the Greenlanders along the southern part of the west coast hunt white whale or, formerly, the shy, spotted seal, with bladder darts or,



farther north on the west coast, walrus. Of later years a characteristic form of hunting in numbers has sprung up at Qaquk Sound, close to the islet where Hans Egede built his house. Here the shoals of white whales, which are extremely timid, are driven into a creek by the noise of motor boats, the entrance to which creek is so shallow at ebb tide that the animals cannot get out, but are easily killed with rifles from boats. A similar kind of hunting takes place at Agpamiut in the Sukkertoppen District.

**Bowhead and Humpback Whaling.** Besides the small whales which are caught from kayaks there was formerly a very considerable hunting of bowhead at Angmagssalik, as well as on the west coast off Holsteinsborg and Disko Bay. Before the Danes took over the direction of the whaling this took place from umiaks, the large open skinboats, and this was the only occasion when the men deigned to use those vessels. Several floats were attached to their gunwales so as to prevent them from capsizing; the men were dressed in combination suits in order to be able to float if an accident should happen, and to make as little noise as possible they paddled standing, instead of rowing with the usual oars. In the bow the harpooner took his place with his weapon, which was provided with an uncommonly large, but narrow toggle head without barbs (the same old type which on a smaller scale is used for seals at Thule) fitted to a long and heavy shaft, so that the weapon could be thrust into the whale. Also the float had some resemblance to the one used by the Polar Eskimos, being made with the neck turning backwards, and further provided with a drag.

Now the bowhead is on the verge of extermination, thanks to the reckless destruction carried on by the white whalers in the years when this kind of whaling was still a paying business. In Greenland it is no longer caught, and the only large whale which is still hunted to some extent, is the humpback whale. Humpback hunting is of ancient date at Frederikshaab, but is now also carried on at Godthaab. For this purpose a common boat is used, which however, is paddled in order not to make a noise. It is important to come upon the whale when sleeping, and it is then killed by thrusting a long lance into its heart. Ordinary harpoons cannot be used, as the humpback whale, like other balænoptæridæ, attempts to escape on the surface instead of diving.

In 1924 the Government started an attempt at carrying on whaling on a larger scale from a sea-going steamer. The Greenlanders get all the meat, whereas the blubber falls to the share of the Government. It is still too early to express any opinion as to whether this experiment is going to be a success.

**Net Hunting in Open Water.** Seals, particularly saddlebacks and white whales, are caught in nets during their autumn migrations. The nets are made of string, the width of the meshes being 25 to 30 cm. They are set across narrowings in fiords and sounds or outwards from the shore, with a float at the extreme end, and are attended to daily. This is of far less importance than net hunting under the winter ice. A similar method can be used at holes in

the ice which are kept open by the current. The nets are made like those for catching under the ice, but they are larger and consequently require a greater outlay of capital on the part of the owner. This is the principal reason why they have not obtained a wider distribution, but in a few places there is also a geographical reason, as for instance in the Julianehaab District and certain localities in the Ũmánaq District, where the drift ice and the icebergs, respectively, would tear the nets. How few they are, as compared with the ice nets, appears from the table on p. 125. In the Sukkertoppen District the Government has taken over this form of whaling, keeping the blubber as its share, while leaving meat and skin to the Greenlanders.

**Hunting of Sea Mammals on the Ice.** In southernmost Greenland there is only a short period in the winter when sealing cannot be carried on from kayaks, and it is rarely for any length of time, but only temporarily and in bad weather. The winter ice puts obstacles in the way of this occupation in a few places only; but the farther north we get, the more solid and more lasting the cover of ice, until in the Thule District it extends over three fourths of the year. Seal and walrus are then hunted from the solid ice. It is this ice hunting which Steensby, with good justice, considered a main pillar of Eskimo life; for in the winter it supplies the lamp oil which makes it possible for the Eskimos to go beyond the timber line into the tree-less Arctic area.

In winter, fiord seal and bearded seal keep holes open in the ice, to which they resort in order to breathe, whereas the other species always avoid solid ice. If in the autumn an intense cold sets in suddenly without snow, ice may form over large areas, as smooth and polished as a mirror. Then the so-called smooth-ice hunting takes place at Thule and in North Greenland, and it is regarded as excellent sport. The hunter ties a pair of sandals, made of bearskin or long-haired dogskin, under his feet, in order to be able to move noiselessly on the ice. The ice harpoon has a smaller head than the kayak harpoon; the head is now made entirely of iron with a line attached to it, which line however is much shorter than that of the kayak harpoon and naturally also lacks the float. As in all ice hunting the hunter continues to hold the shaft in his hand after the thrust, the hinged foreshaft is unnecessary. In former times the shaft of the Polar Eskimo ice harpoon consisted of a narwhal tusk; now it is an iron rod, a little more than 1 m in length, with a short wooden handle. In calm weather the seal can be heard snorting at the breathing hole, at a great distance, and the hunter directs his steps towards this sound. When the seal breathes, it does so very thoroughly and, therefore, remains for some time at the breathing hole. As soon as this sound informs the hunter that the seal is breathing, he hurries forward; when its breathing stops, he stands still so as not to be betrayed by the faint cracking of his footsteps, and at last he reaches the hole and thrusts the harpoon into his prey.

The walrus does not scratch breathing holes in the ice like fiord and barbed seal, but in the autumn it runs its heavy skull through the young ice, even if the latter is more than thick enough to carry the weight of a man. In places near land where there are clams, it keeps open small pools to which it resorts constantly. Then the Polar Eskimos are seen to move about on the ice with the harpoon line coiled up on their backs, and the ice harpoon, which is particularly heavy for this kind of hunting, in their hands. At the very moment they have succeeded in thrusting a harpoon into a walrus, the iron shaft of the harpoon is rammed into the ice, a coil of the line is flung around it, and thus the huge animal is made fast. Whenever it rises to the surface of the water to breathe, the lance is thrust at it, until it finally succumbs. In order to secure the animal, which may weigh up to a ton, the Eskimos make use of very ingenious tackle. They cut a hole in the skin at the back of the neck of the walrus and chop another one in the surface of the ice, leaving a sort of "bridge" across the hole. A stout sealskin thong ending in a loop is attached to the "bridge", passed through the hole in the skin, then back to the loop and once more through the skin. By means of this clever device three or four persons pulling at the free end of the thong are able to secure the enormous carcass, which is then cut up on the ice and taken home on the sledges. Walrus hunting on new ice only takes place in the Thule District, but is mentioned as having taken place in the Sukkertoppen District about 1800.

Walrus are not so timid as seals, so in their case this method can be pursued after snow has fallen; otherwise hunting on smooth ice ceases with the first snow-fall, as the faintest creaking frightens off the seal. Then begins the tedious hunting which consists in watching at the breathing holes. This method is known all over Greenland, even as far south as in the region round Cape Farewell. It is used at Angmagssalik and here and there along the whole of the west coast, on the northern part of which it was a principal winter occupation. Now it has gradually been more or less superseded by the far easier net hunting under the ice, but it is still regularly practised, for instance, on the wide ice floe of Nordost Bay. It is, however, in the Thule District that special mention should be made of it.

Late in winter the breathing hole merely appears as a molehill in the snow, gradually formed of rime from the breathing of the seal. A small opening, the size of a penny, leads to a hollow in the cover of snow arching over the wide channel in the ice through which the seal rises to the surface. The hole in the snow is not always right in the centre of the channel, and when the seal comes up to the surface it generally follows the side of the channel with its back close to it, so that the hunter frequently misses it. When he has found a breathing hole which seems to be in use, a boy is sent on with the sledge; the dogs smell out the other breathing holes in the neighbourhood, and the boy destroys these with a kick. The seal dare not come



to the surface in those holes, but resorts to the one where the hunter is waiting. Nevertheless, hour after hour may pass without any result. Without moving the hunter stands beside the breathing hole with his feet on a bit of bearskin, or he sits on a small, three-legged stool. At last the blowing of the seal is heard; the harpoon is raised above the hole, and the weapon rushes down through the narrow opening. Shaft and line remain in his hand, and it is now quite easy to kill the animal, which is then hauled on to the ice.

The equipment of the Angmagssalik Eskimos for this kind of hunting is a similar one to that of the Polar Eskimos (fig. 43), though with the difference that the harpoon shaft terminates in a powerful ice chisel. Now a rifle is sometimes used. In olden times the West Greenlanders frequently sat on a one-legged stool with a low three-legged footstool under their feet; but now they always wait standing at the breathing hole, and instead of the old-fashioned ice harpoon they use a rifle or a harpoon head fitted to their ice chisel.



Fig. 43. Sealing stool for hunting at breathing holes. Angmagssalik. (Thalbitzer).

At Angmagssalik there is an ice hunting method which is very interesting from an ethnographical point of view, and which might be called "peep" hunting. Early writers, like Hans Egede and Fabricius, also describe it as occurring in West Greenland, but there it has passed entirely out of use, and at Thule it is not known at all. Two holes are cut in the ice, a larger and a smaller, the one beside the other. At the small hole stands a man with a harpoon, which is 10 m or more in length and is held in the water. At Angmagssalik the harpoon is provided with a very peculiar toggle head; it is not loose as an ordinary harpoon, but hinged so as to be able to be lodged crosswise on the end of a bone shank. At the other hole lies a man with a cover over his head, peeping into the water and with one hand steering the harpoon which his comrade is holding. He whistles and whispers down into the water, and at the same time the harpoon is moved slightly up and down, by which movement a couple of small pieces of ivory, placed near the head of the harpoon on vibrating feather shafts, are set into motion. This the inquisitive seal is not able to resist. The observer utters a cautious *ké!* or *kéq!* when the seal is below the harpoon — and it is caught.

When, after the long winter, the sun once more asserts its power, and the seals begin to feel the spring stirring their blood, they scratch the cover of snow off their breathing holes so that they can crawl on to the ice and bask in the sun. They sleep, but almost every thirty seconds they lift their heads and look about them; then after a few seconds they once more resume their

short rest. Sometimes their sleep extends over a minute and a half, but it rarely lasts longer. In North Greenland such a seal is called an *ũtoq*, and *ũtoq* hunting is practised everywhere in Greenland, even though it is naturally most important in the north. Whatever his errand, a Greenlander in these parts rarely goes out with his sledge in springtime without carrying with him his implements for *ũtoq* hunting. At first it was practised with the ice harpoon; the hunter who was himself dressed in a sealskin costume crept cautiously up to the animal, while it slept, and whenever it woke up he imitated with surprising skill the movements of a seal, until at last he

came so close to his prey as to be able to reach it with the harpoon. At Angmagssalik the hunter used the long harpoon with a hinged toggle head which he pushed in front of him on a diminutive sledge.

Now *ũtoq* hunting is always practised with a rifle, and the hunter hides behind a shooting screen, very nearly like that used on the kayak (fig. 44). It is placed on a small sledge, the runners of which are covered with dogskin on their under sides, and it has two small "upstanders" to which the rifle is lashed



Fig. 44. Shooting screen for stalking seals on the ice. Egedesminde District. (National Museum).

in such a manner that its muzzle projects through a hole in the screen. When the hunter sights a seal, he is able to approach it on his sledge, till it is about 500 m distant; then he lets his dogs, which are trained for this purpose, lie down, and he approaches the seal walking and trying to hold it "in the wind's eye", at the same time stooping behind the screen. At last he creeps cautiously over the ice, pushing the screen in front of him, till he comes within shooting range, and as soon as the report of his rifle is heard, the dogs come on at a wild gallop, pulling the sledge after them. It is of essential importance to make a sure hit, for should ever so little life be left in the seal, it rolls down through the breathing hole and disappears. If the snow is so dry as to creak, or if there is a slight haze to conduct the sound, the hunt is bound to fail. If the hunter has not brought a sledge, the seal is dragged home by means of a thong which is attached to a strap worn across the forehead.

Finally, it should be mentioned that most bear hunts take place on the ice. While in the regions round Cape Farewell the bear is in the main met with accidentally in the drift ice, the Polar and Angmagssalik Eskimos go out with their sledges for systematic bear hunting. The short and light Angmagssalik sledge is, as it were, especially adapted for this purpose, as it is too small for travelling. Also the West Greenlanders in the most northerly part of the Upernivik District profit by the numerous bears on the ice fields of Melville Bay. When the yellow spot in the snow which betrays the fleeing bear is sighted ahead, some of the quickest dogs are set free, and starting with a rush they gradually succeed in stopping the prey. After them tear the remaining team with the sledge swinging to and fro across the rough and hummocky ice, until they are so close that the bear can be killed. For this the weapon commonly used is now the rifle; but the Polar Eskimos to this day pride themselves on being able to meet the bear in equal combat, with the lance as their only weapon.

**Net Hunting under the Ice** is not used at all in the Thule and northernmost Upernivik District where the ice already in early winter becomes far too thick. At Angmagssalik Holm has written down legends, in which sealing nets are mentioned, but the nets themselves are no longer known. In 1915 they were introduced into the district and now yield good returns, but they are only used by some few "employed natives." In West Greenland the use of ice nets is, in all probability, of very old date, but they seem very nearly to have passed out of use at the beginning of the colonization period. They found, however, an eager and indefatigable advocate in M. N. Myhlenphort who lived in Greenland as a merchant and subsequently as an inspector about 1800. Moreover net hunting came very much to the fore in the efforts made towards procuring a living for the Greenlanders, who during the whaling period had lost the habit of sealing. On the northern west coast it is now the most important hunting method in winter. The number of nets possessed by the Greenlanders in 1923 was as follows:

	Ice nets	Open water nets
Julianehaab . . . . .	13	0
Frederikshaab . . . . .	37	2
Godthaab . . . . .	13	5
Sukkertoppen . . . . .	39	27
Holsteinsborg . . . . .	137	16
Egedesminde . . . . .	1478	35
Christianshaab . . . . .	380	16
Jacobshavn . . . . .	190	1
Ritenbenk . . . . .	351	6
Godhavn . . . . .	288	17
Ūmánaq . . . . .	1061	41
Upernivik . . . . .	2703	5
West Greenland . . . . .	6690	171
East Greenland . . . . .	15	0



These nets are made in exactly the same manner as open water and fishing nets, that is, by means of a wooden needle with two or three points and a rectangular mesh stick. The width of the meshes is 17 to 18 cm, and the net as a rule is 12 by 30 meshes. As they are smaller than the open water nets and are made of common twine, they are so cheap that a Greenlanders is able to have many at a time.

When the net is to be set, the hunter first spreads it on the ice in order to see where the holes are to be chopped. Then three holes are cut with the ice chisel. This implement, which consists of a powerful iron chisel placed at the end of a long shaft, is indispensable for almost every kind of ice hunting, because it can also be used to test the thickness of the ice etc. The loose bits of ice are removed from the holes with an ice scoop which is made of wood or, by preference, of baleen (fig. 45). After having chopped the holes in the ice the hunter ties his ice chisel to the upper edge of the net. Then the ice chisel is thrust down through the outermost hole, in the direction of the one in the middle, and when the thrust is well calculated, the wooden shaft of the chisel will emerge from this hole, where the net is tied to a lump of ice. In the same manner the net is drawn to the third hole. At last it is tightened, but only so much that it cannot freeze fast to the ice. The net

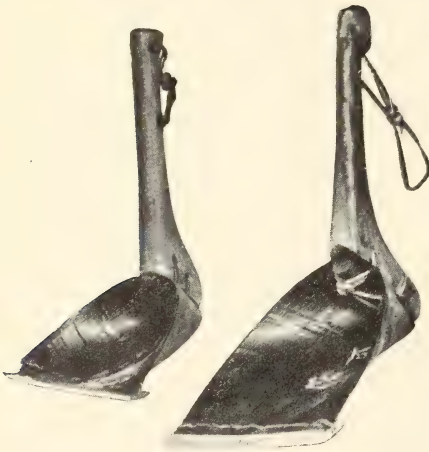


Fig. 45. Ice scoops of baleen.  
Egedesminde District.  
(National Museum).

is looked after daily at the middle hole. If a seal is caught, the hole nearest it is chopped larger. The net is dried on the kayak stand or within the house. Net hunting at the breathing holes, as practised in Alaska, is unknown in Greenland.

**Hunting of Sea Mammals at the Edge of the Ice** is practised under various conditions: at the edge of the solid winter floe, at lanes and holes in the ice caused by currents, or from the drift ice in the south. The method is, however, essentially the same, and on the northern part of the west coast, the one which, setting aside net hunting under the ice, is the most productive in winter. At Angmagssalik the conditions for hunting at the edge of the ice are even a determining factor in the situation of most dwelling places. It is particularly practised towards the end of the winter or in spring, when the ice becomes so thick that it is difficult to set nets, while at the same time the seals themselves have difficulty in keeping their breathing holes open and consequently resort to ice-free places. The method thus principally

pertains to rapids and the most out-lying dwelling places. It is not only seal, but also walrus, narwhal and white whale which are hunted in this manner; in the olden times with a harpoon, but nowadays nearly always with a rifle.

The hunter leaves his dwelling place, walking with his kayak on his head or riding with it on a sledge. The kayak is often necessary in order to cross open lanes in the ice or to secure the prey. The sledge, as a rule, is weighed down by stones and left behind on one of the outermost islets, the hunter continuing on foot. At the edge of the ice he builds a wall of ice blocks, unless the kayak, which in that case would be painted white, is made to serve this purpose. He may also try to lure the seal. He whistles along the shaft of the ice chisel, scrapes on the ice with it and runs back a fair distance, trailing it after him; then he scrapes again, and finally creeps cautiously up to the edge of the ice in order to shoot as soon as the seal appears. When the dead animal is fetched in a kayak, the hunter makes use of a short towing strap, at one end provided with a sharp bone needle, at the other with a loop or a toggle.

A special form of hunting at the edge of the ice is the so-called *savssat* hunting which is sometimes practised at Disko Bay and Vaigat, and which sometimes occurs in Godthaab Fiord. The essential thing is that the ice is formed from without, which sometimes happens when the west ice drifts towards land. Porsild has given an interesting description of this Arctic phenomenon; he writes *inter alia*: "Then it often happens that schools of white whales or narwhals are cut off from the still open parts of Baffin Bay and are gradually driven in towards the head of Disko Bay. Freezing continues, and finally the schools are restricted to the last smaller or larger open spaces in the ice, whence they cannot escape unless the weather changes and the ice is broken. If no such change occurs, a large school of whales may eventually find itself inclosed in a very small pool. When the temperature of the air is below  $-20^{\circ}$  to  $-25^{\circ}$  C., condensing vapors, visible at long distances, rise from every hole or every tidal crack. If a school of whales be inclosed in one of these pools, the breath of the animals will expand the thin cloud to a substantial column, and thus the enclosed animals may be easily detected, even from a distance, and they then become an easy prey for the inhabitants of the neighbouring shores." (Geogr. Review, VI. N. York 1918, p. 216). The animals are killed with rifles and harpoons.

**Hunting of Sea Mammals from the Shore** is practised at some narrowings in fiords and sounds in the course of the autumn migration of the saddleback. In such places stone walls are frequently built, behind which the hunter lies in wait with his rifle. This method is mentioned as early as in the 18th century, but it is not of any great importance.

On the central part of the west coast, particularly the Taseralik Islands at the mouth of North Ström Fiord, there are some places where, in the autumn,

the walrus crawl up on the islets, the rocks of which have been worn quite smooth during the centuries by the huge bodies. They are shot in the back of their heads, where skin, blubber and skull are thinnest. In order to save ammunition they are also killed with long iron lances, the animals being stabbed in the side or under the fore flippers. In order to facilitate flensing a scaffold with a tackle has been erected, but the work is made difficult by the cold, as the bodies freeze at once, and the profits are frequently less than they ought to be. The route to the nearest dwelling places lies outside the skerries, so in bad weather the distance cannot be covered by means of skin boats, for which reason the carcasses are often left to rot, after tusks, blubber and skin have been secured. Thus not only large quantities of valuable meat is lost, but the stench from the carcasses frightens off the walrus in the following year.

**The Hunting of Sea birds** was of fundamental importance in the Thule District before the introduction of hunting from kayaks. During the short period when ice hunting could not be practised, the Polar Eskimos were limited to seeking their food at the bird cliffs. On the mountain-sides which slope gradually into the sea between Etah and Cape Melville millions of dovekeys brood every summer, and at Parker Snow Bay and on Saunders Island there are large cliffs with guillemot, sea gull and Brünnich murre. The birds are caught with bag nets on long poles and are put by for winter provisions, mostly with feathers and intestines, in sealskins which are stripped off whole, and the fat of which gradually penetrates the birds. Eiderducks brood in the flat field and are caught by means of snares suspended in long straps which are stretched between heaps of stones. Sea gulls are caught with a gorge, a tapering bone wrapped in blubber and attached to a long line.

In the remaining part of Greenland, where the kayak is a dominating cultural factor, the most important hunting of sea birds is practised from this vessel. It is, however, chiefly on the west coast, south of Disko Bay, *viz.* in the sub-arctic and transitional regions, that bird hunting is practised with zest and profit, and it particularly takes place in winter, when many of the birds from the north



Fig. 46. Bird darts with throwing boards attached. Angmagssalik. (National Museum).



resort to the ice-free fiords in the southern part of the country, at the very season when seal meat is most scarce. In the strictly Arctic area on the west coast, as well as at Angmagssalik, bird hunting, on the other hand, is rather subordinate.

The hunting of birds from kayaks is practised partly with shotguns, partly with the old-fashioned bird darts, which, however, are now very rare north of Disko Bay. This bird dart (fig. 46) is particularly used during the moulting period and acts on the same principle as a shotgun. It is between 1.5 and 2 m long and consists of a long iron head, nearly always provided

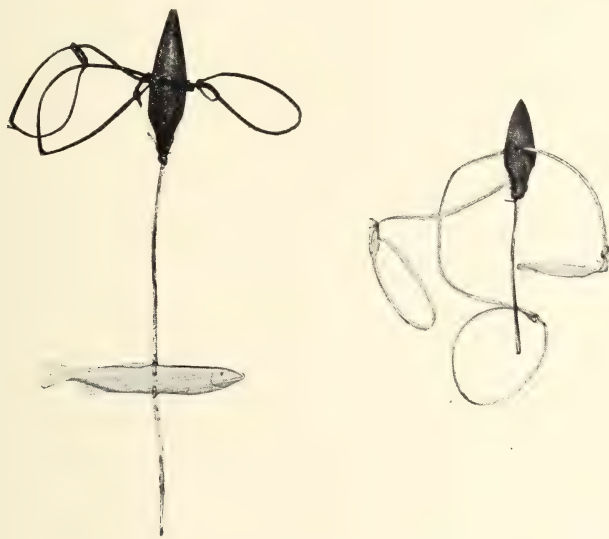


Fig. 47. Gull snares. Egedesminde District.  
(National Museum).

with a small barb, and a light wooden shaft. About midway on the latter there is a circle of three, very rarely four, diverging prongs of antler or, more rarely, walrus tusk, bear's bone, or iron. Each of these is provided on the inner side with two or three barbs, and the idea is that if the head misses, the bird should be hit by one of these prongs. The bird dart is thrown with a higher curve than the harpoons and always by means of a throwing board. In olden times the latter was provided with a hook receiving the bone knob in which the shaft terminated; but this type is now only common in the Julianehaab and Angmagssalik Districts, whereas the bird hunters of the central west coast use throwing boards with two cavities corresponding to two pegs on the shaft, as is the case with knob harpoons and lances.

The Greenlanders know to perfection how to decoy the birds, for instance kittiwakes, by waving a wing or a dead bird, or eiderducks by imitating the "nohrk-nohrk" of the male. When the bird is wounded, the hunter kills

it by taking its bill between his teeth and breaking its neck with one or two strong pulls at the wings.

In South Greenland sleeping sea birds are sometimes caught with the hook spear, which consists of a pointed iron hook inserted into a wooden shaft. Another method of catching sea birds which, however, is only known on the west coast, consists in placing a thin net horizontally in the water and close to the edge of the ice. Sea gulls are frequently caught in snares (fig. 47). Three or four loops of baleen are set horizontally into a wooden float or a string, which is then made fast to a lump of ice. To catch kittiwake it is sufficient to throw a dead bird into the water beside the snare; otherwise a wooden decoy fish is used. At Angmagssalik and, as far as I know, in the Julianehaab District, similar snares are placed along the shore line with a bit of blubber as a bait. Sea gulls are also caught with a gorge, as mentioned above in connection with the Polar Eskimos. Until quite lately brooding eiderducks were caught at the nest with snares, similar to those of the Thule District, only the string, from which the nooses were suspended, was quite short and stretched between a couple of wooden sticks instead of stone heaps. Guillemot and cormorant are—or were—taken by means of snares made fast to the end of a long pole, which is let down into fissures in the rocks or in front of the bird cliffs.

The bola has probably at one time been used in West Greenland for birds on the wing; but now it is only a toy, and a rare one at that. At Nordost Bay there is, however, a hunting method which may perhaps be regarded as a kind of survival of bola throwing, though there are also points of resemblance with the "whip-sling" of the Chukchee. The hunter arms himself with a pole, for instance a harpoon shaft, to one end of which a string is attached, weighted with some heavy object, a seal vertebra or the like. With this weapon he conceals himself behind the stones in a place where he knows by experience that gales force fulmars to the shore, his object being to fling the string round the wings or neck of the bird and so to pull it down. Several places in Nordost Bay derive their names of Kagdlorfik (*i. e.* pulling-down place) from this method.

**Fishery** provides an extremely important addition to the food of the population everywhere outside the Thule District, but which fish is to be considered the most important depends on the point of view. Trout fishing is the typical summer occupation of all Eskimo tribes and, historically, one of the oldest fisheries among this people. In this respect it is characteristic that most of the types of fishing tackle belong to this fishery. Fiord cod is, on the other hand, far more numerous than trout, and in most places plays a greater or smaller part in the daily routine, which part, however, in the Arctic and high-arctic regions proper, is taken over to a certain extent by the small Polar cod. The innumerable caplin shoals at and south of Disko Bay and Angmagssalik yield indispensable winter provisions, whereas the

leading part within the fishery, from the export point of view, undoubtedly devolved until quite recently on the Greenland halibut. Since 1917, however, an enormous revolution has taken place in the cod fishery, so that in the future the latter may perhaps come to compete with the Greenland halibut in importance. The fishing of Greenland shark has attained great importance from a commercial point of view, and sculpin, of which there are three species, constitutes the almost ubiquitous emergency fare, which has saved many a dwelling place from starvation. Of a more local character are the halibut and Norway haddock fisheries, and it is to be hoped that it may prove possible to find as good a market for the latter fish as for the halibut. On a smaller scale is the fishing of the common salmon, two species of wolf fish, lump fish and long rough dab.

As to fishing methods, various types of spears, nets and hooks are used, and on the west coast fish traps and snares are also used. Fishing spears are to be found everywhere in Greenland, but in the Thule District the most important type, the trout leister, was first introduced through the immigration from Baffin Island.

The fish hook, curiously enough, was at first lacking entirely at Angmagssalik, whereas it was known farther south on Frederik VI Coast. Nets were neither used at Thule nor on the east coast, but even such an early navigator as John Davis records of the West Greenlanders that "they make nets to take their fish of the finne of the whale." After the beginning of colonization net fishing was considerably improved, but of far greater importance was the introduction of long lines for deep sea fishing.

The various kinds of fishing spears (fig. 48) are used for fish which enter shallow waters or, in other words, particularly for trout and salmon, but also for lump fish, sculpin, Polar cod and, to a certain extent, caplin. That the shark, which otherwise keeps to greater depths, can also be taken in this manner, is due to its torpidity, for when it has been decoyed to a

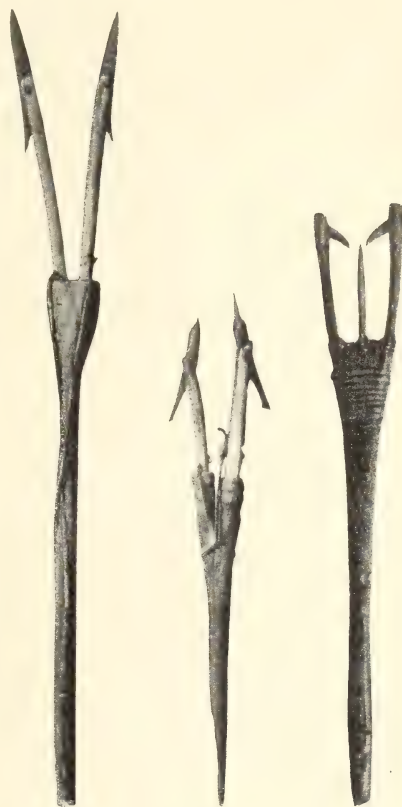


Fig. 48. Salmon leisters.  
Angmagssalik.  
(National Museum).



hole in the ice, it calmly lets itself be harpooned. Leisters are used for trout fishing in summer, frequently in connection with stone weirs built across the river mouths. When the trout migrates to the fresh water in order to spawn, it is cut off at ebb tide by these weirs which rise above the surface of the water, and it is easily speared with the leister. This implement consists of a pointed central spike and two divergent, elastic side prongs, made of antler and with iron barbs on the inner side. Sometimes the central spike is lacking, and then the side prongs are not placed in exactly the same plane; and in addition both of these are provided with a number of barbs. The weir method is extremely injurious to the stock of trout, because its chief object is to catch the fish about to spawn, and so the use of weirs is prohibited in Greenland. Unfortunately the prohibition has hardly been very effective, as the trout rivers are mostly to be found in isolated parts where one family cannot control the other. Leisters are also used in West Greenland for lump fish and sculpin, and at Angmagssalik, in former times, for Polar cod.

Besides the common leister there are a couple of special types. The Angmagssalik Eskimos sometimes fish caplin from kayaks with a spear which is provided in front with a bunch of closely set and diverging wooden points, and for spearing Polar cod in tidal lanes in the spring ice the Polar Eskimos use a barbed leister, the small two-pronged head of which is carved from a single piece of ivory. The leister harpoon, consisting of a two-pronged fork, the points of which are provided with loose toggle heads, was sometimes used for trout fishing in West Greenland, and at Angmagssalik this type has been retained, having only undergone the same change as the ice harpoon for "peep" hunting, the heads being made into hinged toggles. With this implement trout are fished from the ice, the fish being lured by means of a decoy consisting of a soapstone sinker with split feather shafts, at the extreme ends of which are placed carved ivory pieces which vibrate when the decoy is moved up and down in the water.

In West Greenland there were formerly, as is shown *inter alia* by many archæological finds, special fishing harpoons with barbed heads, but now they are no longer used. Sometimes trout and shark may, however, be speared with the usual sealing harpoon, in such cases naturally used without a float. The winter shark fishing takes place among the Angmagssalik Eskimos in a similar manner, the fish being decoyed to a hole in the ice by means of rotten blubber and seal blood. In West Greenland trout is also taken with the same hook spear which was mentioned under bird hunting; it is a very cruel method, by which fish after fish is lacerated to no purpose. Sharks are taken from the ice with the same implement.

Like the methods described net fishing is also practiced in shallow water. As mentioned above it is, however, only on the west coast that fishing nets were once used, and then particularly for trout and salmon. Nowadays they are made with needles and mesh stick, exactly like sealing nets, but

with far finer meshes, and so large — for instance 50 by 2 m—that the making of them is frequently too costly for a Greenlander. In some places also fiord cod and sea cod are caught by means of nets. Fish traps are only used in West Greenland, and even there not very much, but sometimes they are set in trout rivers in connection with stone weirs. They now consist of a wooden box, the bottom of which is replaced by a net. Formerly they were made of plaited baleen or willow branches. Furthermore, trout are taken close to the land with a snare which is placed on a rod held in the hand, but nowadays it is more of a toy than an actual fishing implement.

In the early summer, caplin, in immense shoals, visit the banks of the fiords south of Vaigat and at Angmagssalik, which as a matter of fact is called after this small species of *Salmonidæ*. The fish are simply scooped up from the shore or from umiaks. For this purpose a dip net is used, made of plaited sinew thread or twine and attached to a long pole. The East Greenlanders use a large cylindrical scoop, consisting of two wooden hoops connected with thin wooden sticks, the space between the latter being filled with thin plaited strips of skin. The caplin are left to dry on flat rocks in countless numbers; there seem to be thousands and thousands of this fish which, as it were, constitute the “bread” of the Greenland household, and in good seasons the caplin grounds are the scene of such bustling activity and general joy as to leave a deep impression on the visitor.

Hook fishing from the shore plays no part. It is mostly in deeper water, where the methods described above cannot be used, that various kinds of hooks are employed; at Angmagssalik this kind of fishing has only occurred in recent times, since the beginning of colonization. Even in rather shallow water, fiord cod, Polar cod, cod and sculpin are caught with jigs. An ordinary Greenland jig is provided with an oblong soapstone sinker, under which there is a slender bone shank with two or more iron barbs. The fish is attached by little bits of red ribbon (originally the red web of a guillemot) and little pieces of ivory which vibrate, when the jig is moved up and down in the water. At holes in the winter ice the West Greenlanders fish with a special kind of hook. On this hook a small bone plate, often the shoulder blade of a hare, is attached above the sinker, being placed obliquely in relation to the axis of the stone and in such a manner that the fish is caught on the hook, when it is pulled through the water with short jerks.

At still greater depths there are sharks, Greenland, and ordinary halibut, and Norway haddock. Hooks with baits and long lines are used for these species of fish. The only shark fished is the large species known to naturalists as *Somniosus microcephalus*. There are also one or two smaller species at the coast, but they are of no importance. While fresh shark's meat is poisonous it is, when dried, an excellent dog's food, and wherever sledge dogs are kept, sharks have been fished from of old, only excepting the Thule District, where this kind of fishing was not introduced till later years. The fact that

shark fishing is so important at the present day and has also spread to South Greenland, where during recent years an enormous rise has taken place, is due to the value of the liver, which is used for oil. The most important shark fishing is done by means of hooks, partly from kayaks and partly from the ice. The hook is made of iron, and the lower part of the line is an iron chain, to prevent it from being bitten in two. When fishing from a kayak the fisherman holds the line in his hand; on the ice the upper end of the line is attached to a flexible rod which shows when there is a rise.

The halibut, the length of which may exceed that of a grown-up man, and which may weigh more than 50 kg, only leaves the great depths in Davis Strait, where no fishing takes place, for a couple of summer months when the water on the great banks off the central west coast is sufficiently heated. In summer, at the mouth of North Ström Fiord, a great number of Egedesminde Greenlanders join people from the Holsteinsborg District in order to carry on halibut fishing from the Taseralik Islands, the same island group where a couple of months later the great walrus hunt takes place. The tents are pitched in separate groups; in fine weather children and puppies are gamboling and playing, the women are engaged in domestic work, but from the low hills a number of black spots are visible far out to sea — it is the fathers who are out fishing with their kayaks and lines. The halibut hook (fig. 49) was formerly composed of a curved shank of wood or bone, to which a powerful, barbed bone prong was attached, and a large natural stone was used

Fig. 49. Old-fashioned  
halibut hook.  
West Greenland.  
(National  
Museum).

as a sinker; the hook is now made entirely of iron. In order to protect the covering from being worn through, when the fish is hauled up from a depth of 60 to 70 m, the shaft of the harpoon is hung on the side of the kayak. As soon as the huge fish reaches the surface of the water it is stunned

by a blow dealt by a wooden club, and killed with a broad-bladed knife. The small Greenland halibut occurs in large quantities. It forms the chief nourishment of the population of Jacobshavn; but it has been shown, by the cruises of the "Tjalfe," that it is at least as numerous towards the south, in the Julianehaab District. It can be fished all the year round and, as it were, at the very door of the Greenlanders, as soon as they get out to sufficiently great depths. Furthermore, it is very fat and suitable for export. Norway haddock has similar advantages, but is less numerous. Both species are fished in depths of about 400 m, partly from kayaks, partly from the ice by means of hooks, which resemble the type described above, on a smaller scale.

The greatest revolution in the fishing methods of Greenland was caused



by the introduction of long lines, which enable the people to exploit, in a far more rational manner, Greenland halibut and Norway haddock in the deep fiords, as well as common halibut and cod on the banks off the coast. The long lines were introduced into the Jacobshavn District in 1906, and later on at many other places along the west coast; they came to Angmagssalik in 1916. In the winter of 1923 there were, in the Holsteinsborg District alone, 248 long lines. Every line is provided with 100 to 200 hooks and anchored with a stone; to the upper end is attached a float of wood or a seal bladder. On Great Helleflynder Bank, which up to the present is the only fishing bank that is being properly exploited, a motor boat tows several dories over a distance of more than 100 km out to sea, where the lines are set. Recently the lines have also been set from the motor boats themselves. It is desirable that it may prove possible to get larger vessels for the sea fishing in Davis Strait, but this project, curiously enough, meets with the obstacle that the West Greenlanders, the descendants of an ever-migrating race, have in the course of time become so tied to their dwelling places as to be unwilling to leave them for any length of time. This, however, is also partly due to economic conditions, for few have sufficient capital to be able to leave their families in fairly secure circumstances for any length of time. If there were a change for the better there is no doubt that also this feeling of being bound to the soil would gradually disappear and the fishery profit by it. In 1924 a motor schooner of 76 tons was sent up to Greenland, in order to carry on fishing on the banks; a Danish fisherman was in command and the crew consisted of Greenlanders.

**Hunting of Land Animals.** Sometimes a bear is shot on land, either when wandering or when lying in its winter lair, and in prehistoric times the Greenlanders built large bear traps of stones, of which there are still a few specimens in various parts of the country. But Polar bears can hardly be reckoned land animals in the strict sense of the word, and the most important bear hunting takes place on the ice.

As musk-oxen are not to be found within the inhabited regions, the hunting of this animal has been limited to the Polar Eskimos, who were in the habit of undertaking extensive hunts on Ellesmere and Sverdrup Islands, until this was prohibited by the Canadian Government some years ago. The hunt was carried on with bows and arrows; later on with rifles.

Thus the reindeer is the only large land mammal in the inhabited regions, though it is not to be found everywhere. In the Thule District into which, after a very long absence, it re-immigrated a little more than a hundred years ago, it was first hunted after the Eskimos had learnt the use of bows and arrows from the Baffinlanders; but then, and not least after the introduction of the rifle, the hunt became so reckless that the deer practically disappeared. At Angmagssalik they were exterminated before the discovery of these regions; in the Julianehaab District the last deer was killed about a

hundred years ago, nor are deer any longer to be found on Disko. In fact it was only in the broad part of the coast land, from Disko Bay to Frederikshaab, that deer hunting played any economic part, and that even in a much less pronounced degree than the hunting of sea mammals and fishing, but everywhere it is considered a glorious sport.

Formerly there were two methods of deer hunting, both of which are now abandoned. One method consisted in driving the animals into the water where they were pursued with kayaks and speared with lances. To the other method pertained long, converging rows of stones, sometimes replaced by poles with sods on top. Women and children drove the animals in between the extreme wings of the stone rows, and being afraid to break out to the sides, the animals, as it were, ran straight into the arms of the hunters, who with bows and arrows concealed themselves at the point of the angle. Stone rows for this kind of hunting are not only found in many places on the west coast, but also at Thule and Angmagssalik where they go back to the deer hunting of prehistoric times.

Two different types of bows were used, the backed and the compound one. It was the former type which was re-introduced at Thule by the Baffinlanders, and which was commonly used in olden times all over the west coast. The stave consisted of one or, more rarely, several pieces of wood; in the tree-less Thule District it was made of three pieces of antler. It had either a single curve, a double curve or reflex wings. The backing was made of seal thong or plaited sinew thread, arranged in two layers, an under one which covered the whole of the stave, and an upper one which only covered the middle part (the so-called primary Arctic backing). The compound bows, which are only known in the northern parts of both coasts, consisted of two pieces of baleen and can hardly have been so powerful as the backed bows. The arrows had bone heads, sometimes armed with an iron blade, and generally provided with one or more barbs. Arrowheads of slate, jasper and chalcedony seem, in most cases, older than the bone heads. At the back of the shaft were tied two tangential feathers. The arrows were carried in a seal skin quiver, in which there was also a compartment for the bow, as the backing suffered from being wet.

Both from a historical and an economic point of view the most important deer hunt is the one which takes place late in summer. At that time the deer are fat and the meat sweet, while the skins are short-haired and suitable for clothing. This hunt is, however, widely different from the great deer hunts among the Central tribes of the Barren Grounds and the North-West Passage. As compared with conditions in these places the deer are only few. In order to get a shot at them the hunters are obliged to travel far into the fiords, frequently to regions close to the margin of the inland ice. Formerly, when deer were more numerous, the Greenlanders displayed the utmost extravagance in the course of these hunts and shot the animals

down in enormous quantities merely to secure the skin, the tongue, and perhaps the back fat (*dépouille*), the meat being left for ravens and foxes. Neither is it everywhere, at the present day, as it should be, but in making this justified protest, it should not be forgotten how difficult it is to transport the heavy carcasses for many miles across hills and valleys before the hunter reaches his camp.

North of Disko Bay deer hunting is essentially a winter occupation. It is true that neither skins nor meat are of approximately the same excellence as late in summer; but on the other hand, the possibility of using the sledge is a great advantage in the trackless mountains. Besides, the Greenlanders maintain that the deer, whose eyesight is rather poor, frequently mistake the upstanders of the sledges for the antlers of other animals of their own species. Anyone who knows a little of the habits of wild reindeer, also knows that, however shy they are, they sometimes behave as if they had entirely lost their senses, not only stopping at the sight of the sledge, but coming quite close to it. On a given sign the dogs stop short; without leaving his sledge the hunter fires, and off the dogs go at full speed.

Of smaller land animals the species chiefly hunted are ptarmigan, hares and foxes, and of these hares had disappeared from Angmagssalik before this place was discovered. Neither ptarmigan nor hare are much eaten, as the Greenlanders generally consider their meat too dry. Only at Thule are the hares of real importance, their warm but fragile skins being used for stockings. Both hare and ptarmigan were formerly shot with bows and arrows; now they are killed with shotguns or caught in snares. The Polar Eskimos use the same snares for hares as for eiderducks: long straps with suspended loops, which are stretched between heaps of stones. In play, boys frequently hunt small birds with stones and slings.

In olden days the fox was little sought after, except in the Thule District, where its skin is indispensable for clothing. It is also mainly there that the Greenlanders, during the dark season when other fresh meat is scarce, eat fox meat, which is, in fact, fairly palatable. Since foxskins have been in demand for the European market, fox trapping has achieved far greater economic importance, though not approximately to the same extent as at the trading posts of the Hudson's Bay Company in Arctic Canada. The open season for fox hunting is from October 1st to April 15th, and they are almost exclusively caught in traps. At the present time two kinds of traps are used. One of these consists of a small stone chamber; the entrance can be closed with a flat stone tied to a string, at the other end of which the bait is attached; when this has been taken, the trap door falls down and imprisons the fox. The other kind of trap is of similar construction, but the roof consists of a board, weighted by stones. One end of the board rests on the earth, whereas the other end with the bait is lifted by means of the string. When the bait is taken, the board falls down and kills the fox. In former



times the so-called tower traps were also used on the west coast, being likewise known in Thule and Northeast Greenland. They are a kind of pitfalls in the shape of tall, round stone chambers. Formerly foxes were also caught by other methods, for instance, with snares; now steel traps are also used.

**Collecting.** Life in the Arctic generally requires such highly developed hunting methods as only to leave very little scope for the primitive collecting of natural food products, even though a trade of such vast importance as the fishing of caplin almost bears this character. For the diet of the Greenlanders this collecting, however, is of great importance, as formerly it was the only manner in which they were able to obtain vegetable food. Most important are the crowberries. They are sweetest when they have been exposed to frost, and are therefore mainly collected late in the autumn or in the winter from below the snow. In West Greenland they are scraped loose with the berry scraper, a curved plate of antler, the wings of which are united by a wooden handle, and they are separated from the snow by means of large skin sieves in the shape of bags with a perforated bottom (fig. 50). Cranberries and blackberries are very little eaten; the former need sugar, and the latter cannot be preserved for later use. Further a few roots are eaten, particularly those of various kinds of lousewort, dandelion and *Sedum Rhodiola*. Other plants which make part of the diet of the Greenlanders are the refreshing *Oxyria digyna*, *Polygonum viviparum*, the aromatic quan, which does not occur farther north than Disko, and a few species of seaweeds (*Laminaria longicuris*, *Alaria Pylaii*, *Chorda Filum*, *Rhodymenia palmata*). Again, other plants find a more special use in popular medicine. The Polar Eskimos make a kind of chewing gum from willow catkins and blubber which has become tough and gluey through the agency of the air. On the other hand, scurvey grass is never eaten, because it grows on refuse heaps.

The animal produce collected chiefly comprises bivalves, crabs, eggs and down. The most important bivalve is the common blue mussel, the clam (*Pecten islandicus*), which is still more palatable, living in somewhat greater depths. The Angmagssalik Eskimos have a special mussel scoop made of wood; otherwise the hands are used. The large crabs (*Chionoecetes Opilio*) are speared or taken by means of trays consisting of a hoop with a distended net. The eggs of seagulls, terns, eiderducks etc. are in great request, being collected as soon as opportunity offers. They are extracted from narrow fissures in the rocks by means of a long willow branch, the extreme end of which is bent into two single half-hitches so as to form a receptacle for the egg. Where there are actual bird cliffs, the Greenlanders show a surprising skill in climbing up the almost perpendicular walls, which are everywhere made slippery by the excrements of birds, but accidents owing to falling down are by no means unknown. Some collectors are let down from the top of the rocks by means of ropes. The gathering of eggs is only too frequently carried on beyond all reasonable bounds, and this, in a still higher degree;

applies to the collection of eiderdown. This reckless destruction has brought about a very perceptible decimation of the number of eiderducks in the country.

**Farming: A Break with the Economic Principles of the Eskimos.**

The economic system of the Eskimos, in its origin and development, is of an exclusively destructive nature. They are a race of hunters, and they have never kept dogs directly as a source of food supply, though it has happened, and still happens, that a Greenlander feels inclined to eat dog flesh, and so kills one of the poorest of his team. However, the Norse settlers in the Middle Ages reared cattle on a fairly large scale along the southern part of the west coast, and ever since the end of the 18th century the Danish

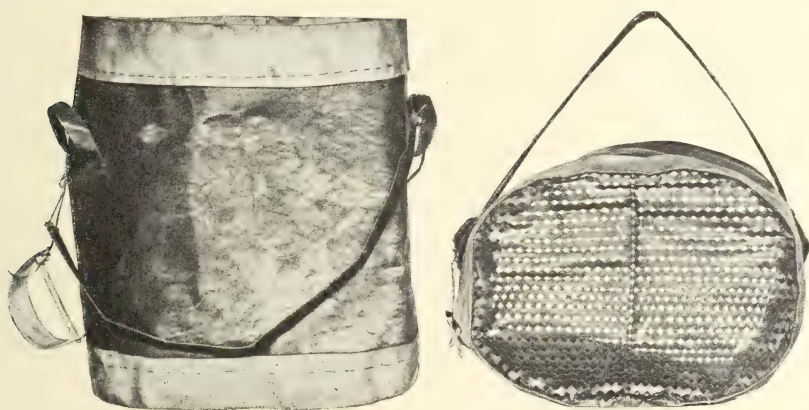


Fig. 50. Berry sieve of sealskin with berry scraper attached. West Greenland. (National Museum).

families residing there have kept a few cows, goats, and sheep, for their personal supply of milk and other agricultural needs. It is, however, mainly in the Julianehaab District that the common domestic animals are likely to have a future before them, though sporadically there are possibilities for sheep breeding as far north as the Sukkertoppen District<sup>1</sup>. Farther north both climate, and the indispensable, but extremely ferocious sledge dogs, offer unsurmountable difficulties.

There are now in the Julianehaab District about 70 head of horned cattle, all told. Most of these are kept by the Greenlanders at Igaliko, where the low sandstone terraces yield good pastures, where the climate is warm and rather dry in summer, and where the föhn-winds keep the country bare of snow for long periods in winter, so that the cattle are able to seek their food in the open air. About half the number of cattle which is kept at Igaliko is to be found at Narssaq, where conditions are a little less favourable, and a very few are to be found elsewhere in the district (Lichtenau, Igdlorpait, Julianehaab).

<sup>1</sup> At Agpamiut in this district there is a Greenlander who owns a few sheep and goats.

At present there are about 700 goats and between 2500 and 3000 sheep. The sheep breeding experiment was started in 1906 on the initiative of the Government, by the import of a small quantity of sheep from the Faroes, and in consequence of the good results the experiment was extended in 1915, with a larger number of Icelandic sheep, and the station was moved to the settlement. The situation of the latter is beyond a doubt as inconvenient as possible—on an island close to the outer coast to which the winter fodder has to be taken by boat and by long and difficult routes. From the station a suitable number of sheep can be obtained gratuitously, on condition that the same number is returned within a reasonable period (3 years). Sheep for killing and for wool must be delivered at the station at a price fixed by the Government. Since 1920 all import of sheep as well as the export of the products to Denmark must also take place through the station.

The great difficulty attaching to cattle rearing in Greenland is how to make the natives take proper care of their stock. The horned cattle are a small, hardy, but rather unproductive race which is not exempt from degeneration. In summer the question of food offers no difficulties, grass and willow (*Salix glauca*) growing in sufficient quantities in most places. During the coldest winter months the cattle are stalled, but the Greenlanders reckon upon the animals spending the greater part of the year in the open air, and so the amount of winter fodder is often insufficient. Beyond some cultivation of turnips, practically the only thing done towards procuring fodder is the mowing of the natural grass including nourishing and valueless plants alike, and draining, airing of the soil, and fertilizers are all equally unknown. The easily contented sheep thrive far better than the cows; also they spend the greater part of the year in the open air, but naturally they have to be sheltered against bad weather, and this has not yet occurred to several of the owners. It is a matter of course that this careless form of cattle breeding cannot procure a livelihood for any man, and that he must have some other occupation besides. There are at present about one hundred sheep owners in the District, but only two or three families can be said to obtain their main living by sheep breeding. There is, however, no doubt that in the future it will be possible to improve sheep farming and make it a factor of great importance in the economic life, at least of the Julianehaab District, as is shown by the systematic investigations made with that purpose in view (S. Sigurdsson 1923, E. Knudsen and K. Hansen 1925). The main problem in this connection is the winter fodder. The soil does not lack valuable elements; there is much more nitrogene, for instance, than is usually the case in Danish soil; the amount of phosphoric acid is very great, and the plants growing there contain a high percentage of nutritious matter. On the other hand, the areas available for cultivation are small, though they can be considerably enlarged by rational methods. Instead of the present casual collecting of fodder, a systematic cultivation of the most



valuable plants must be started. In addition, dried caplin have proved to make very good fodder, containing great quantities of fat and proteins.

In the same district, turnips, radishes and a few other vegetables are cultivated, the turnips partly being used as fodder for the cattle. Attempts at growing barley have also been made by a few cattle breeders; it is true that it does not ripen, but it is mown green and used as fodder.

### *THE ECONOMIC CYCLE.*

**Seasons and Occupations.** There are few areas in the world where the changing of the seasons exercises a stronger influence on the economic life of the people than with the Eskimos. Greenland is a country extending from an extremely Arctic climate to so far towards the south that there the climate becomes almost temperate. It includes the most northerly population of the globe, and the kinsmen of this tribe also live round the southern point of the country. We have seen that in all essentials the same hunting methods extend from Thule to Cape Farewell, on the east as well as on the west coast. But this is only possible, because from one place to another a shifting occurs within the order of precedence of the methods. It is then striking that, although the Greenlanders have specialized on the subarctic methods and carried them to perfection, and although the greatest number of people live in the subarctic regions, true Arctic methods spring up, wherever the geographical possibilities are present. This confirms what is borne out by so many facts, *viz.* that the Arctic cultural phase is older than the subarctic and that the Greenlanders have immigrated from the north.

A number of examples will show the course of the lives of hunters and fishers in various localities.

**The High-arctic Cycle.** It is not due to chance that the small tribe of Polar Eskimos have come to settle on the east side, rather than on the west side of Smith Sound. Along the coast of Ellesmere Island the current carries an inhospitable mass of drift ice from the Polar Sea, but on the Greenland side, Inglefield Gulf and Wolstenholme Fiord open with large, smooth ice floes, sheltered by protecting islets. The winter ice is here the dominating factor of economic life. In the two extremes of the district, the regions round Cape York and Etah, respectively, winter conditions prevail practically all the year round, and it is no wonder that the typical summer methods, hunting from kayaks, deer hunting and trout fishing in such places may be reduced to nothing, and at last be entirely forgotten. It is in the two large incisions, Inglefield Gulf and Wolstenholme Fiord, that hunting from kayaks has been restored to its former importance.

Another essential factor in the annual cycle is the dark season, which causes hunting to stand practically still for two months. Therefore, to a still

higher degree than in most other places in Greenland it is of vital importance that the meat caches should be in perfect order. The autumn with its gales and uncertain young ice is, however, no reliable season for the storing of meat. It is the spring hunting which must fill the caches. The spring hunting begins in May and June, when the seals bask on the ice, and at the same time the Eskimos move into tents, first out on the ice near the hunting area and later on to the place on the shore, where the summer is going to be spent. In the region round Cape York people must generally content themselves with seals, but they are too small to provide large meat caches, all the more as the Eskimos of this place keep large dog teams on account of the bear hunting. Therefore, it by no means provides such a good larder as Inglefield Gulf, where walrus, narwhal and white whale can be hunted from the edge of the ice.

From the end of July till the end of September there is open water in Inglefield Gulf and Wolstenholme Fiord; and within this period hunting from kayaks is practised. Formerly it was necessary to remain in the neighbourhood of one of the large bird cliffs, and then Inglefield Gulf was not a desirable resort, as there are only a few dovekie cliffs. Although the bird hunting to-day plays a smaller part, the women do not quite neglect it, as it supplies the material for the soft inner jackets.

When the nights become dark in September, and the mind calls up attractive pictures of the warm winter hut, and the young ice begins to form, fox traps and hare snares appear. Hare skin is indispensable for stockings, and when the hares leap about at night, looking for food in the places covered with vegetation, they are apt to thrust their heads through the loops stretched across their path. At this time of the year also trout is speared. It is, however, not until October when the ice becomes sufficiently safe for longer sledge expeditions that the hunting of large sea mammals is resumed. The walrus is hunted on new ice when it comes to the surface in order to breathe, and as long as the ice is bare of snow, hunting of seal on smooth ice is practised.

With the first layer of snow it becomes necessary to proceed to the tedious waiting at breathing holes. The increasing darkness gradually makes hunting difficult, and from December to January there is almost a standstill. Then the Eskimos must fall back upon their caches, and only the trapping of foxes supplies them with a little fresh meat. These months are devoted to the easy indoor life, to paying visits, and to gorging feasts, and all of this lasts until the appearance of the sun again makes hunting at the breathing holes possible. It is at this season that the Eskimos set out on their long trips, across Melville Bay for bear, or up to the north of Humboldt Glacier; formerly, when the hunting of musk-ox was permitted, they also went as far as Heiberg Land and south to Jones Sound. These long expeditions have an economic background, bearskins being necessary for clothes, but further-

more they provide good sport and are a pleasure. Wives and children come along, and in the evening the snow hut is built wherever the hunters feel inclined. These are the journeys which have trained the Polar Eskimos to be such invaluable partners on expeditions and have taught them to understand economic conditions, which gives them rather an exceptional position in the Eskimo world.

**An Arctic Cycle.** The great Nordost Bay, which is almost identical with the Ũmánaq District, is in several respects a more southerly repetition of Inglefield Gulf. One of the chief differences between the two places lies not *in* them, but outside them. Nordost Bay lacks a Melville Bay towards the south, an Inglefield Land towards the north, an Ellesmere Island and a Sverdrup Archipelago towards the west; in short, it lacks the peripheric wastes which make the long hunting expeditions for bear and musk-ox possible. Only two or three bears are shot annually in the Ũmánaq District. Otherwise the southern position makes itself felt in various ways. The winter darkness does not put such great obstacles in the way of the hunting, and therefore large meat caches are less necessary. Bladdernose and saddle-back, which do not reach as far as Inglefield Gulf, are here almost the most important objects of the hunt in summer, and open water lasts so long that there can be no question of neglecting kayaking.

A special position within the Ũmánaq District is occupied by the outpost Nûgssuaq farthest out on the Nûgssuaq Peninsula. It might be compared to Etah or Cape York in relation to Inglefield Gulf; but whereas conditions in the latter places are still more extreme than in the remaining Thule District, the situation of Nûgssuaq, on the other hand, provides a certain connection with the south. Hunting at the edge of the ice is more important here than hunting at breathing holes and net hunting. In summer expeditions are undertaken as far as Vaigat in order to fish caplin, which here reach their northern limit. Also with regard to the species of sea mammals found, there is a difference between Nûgssuaq and the dwelling places in the interior of Nordost Bay, where barbed seal and walrus do not occur in great quantities, whereas, on the other hand, the inhabitants of Nûgssuaq catch a fair number of walrus and so many barbed seals as to be able to supply other places with seal thongs.

In spite of all this, the difference between Inglefield Gulf and Nordost Bay is rather in degree than in substance, and the stronger and earlier Danish influence in the latter place is, in this respect, rather more important than the geographical environment. One result of the Danish influence, the eagerly practised net hunting, may however be referred to geographical conditions, in so far as in Inglefield Gulf the winter ice is too thick to make this method a paying concern.

Spring may be reckoned to extend over the months of April, May and June, *viz.* from the time when the fiord seals begin to bask in the sun in



great quantities, and until the ice is no longer traversable. The animals hunted are mainly the seals mentioned above as well as narwhal and white whale at the edge of the open sea and at the large pools in the ice. With a view to sealing, some families move into tents or hunters' huts, but in the interior parts of the bay there is a minimum amount of travelling, and it hardly extends over a distance of more than 20 km from the dwelling place. The hunting of sea mammals is supplemented by the fishing of Greenland halibut and, later in the season, of sharks. The disappearance of the ice means not only a change of methods, but also of the animals hunted, for with the open water come the great seals, bladdernose and saddleback. During the whole of June and August these animals are hunted from kayaks, secondary occupations being fishing, the hunting of murre and, in August, a little deer hunting. It is only at the very innermost dwelling places to which the large seals do not penetrate that the Greenlanders, even in summer, must rest content with fiord seal. The open water with hunting from kayaks continues in the autumn months of September and October, with the difference that the large seals gradually decrease in number, while on the other hand white whale, and later on narwhal, appear.

With winter comes hunting on the ice. Hunting from kayaks is pushed farther and farther west, while the ice spreads from the inner branches of the bay. In November the hunters here begin to set nets under the ice, and as long as the latter is not covered with snow, hunting on smooth ice is practised, frequently with very great profit. On the other hand, gales and bad ice may mean starvation. During the whole of the winter net hunting is practised, being at the present time the most important occupation of this season; it is partly supplemented by catching at the breathing holes and fishing Greenland halibut, partly, and especially at the outer dwelling places, by hunting from the edge of the ice. When the ice gradually becomes too thick for net hunting, greater importance is attached to fishing.

**A Transitional Cycle between Arctic and Subarctic: Rapids and Drift Ice.** On the east coast nearly midway between Scoresby Sound and Lindenow Fiord lies the Angmagssalik District, which—if not exactly an oasis in an ice desert—is at any rate the place which offers the most favourable conditions on a coast otherwise not very habitable. The country here, over a short distance, trends in a direction from east to west, and one large and two smaller fiords cut into the land in a northerly direction, thus giving the Eskimos their chance. Along the country the East Greenland current carries immense masses of drift ice, known by the name of *Storis* or the Polar Ice-Pack. Oceanographic conditions cause the ice, north as well as south of the district, to close in upon the country like an obstructive bar, but in the region round Angmagssalik the change in the direction of the coast line causes the ice to spread and supplies the possibilities for a rich hunt among the animals—seals and bears—which follow the ice. In the winter the ice floes freeze together, forming a continuous field, but this is always

liable to break with a storm. Before this freezing up takes place, there cannot be solid winter ice off the land, except in the most sheltered places. Besides, at the mouths of the fiords, there are practically always large rapids, which do not freeze up, even though the weather is calm and the *Storis* lies uninterrupted as far as the horizon.

Under these circumstances it is evident, as has been pointed out in a previous paragraph, that the situation of the winter dwelling places is dependent upon the rapids, and so hunting from the edge of the ice becomes the most important method. When the calmer waters close, hunting is practised, partly at the breathing holes and partly in the form of the characteristic peep hunting. The hunting of bear is dependent upon the drift ice; the greater the quantity of ice, the greater the number of bears. The Angmagssalik Eskimos generally go bear hunting with their small, light sledges at the end of January; but not until two months later does this kind of hunting reach its climax. During the winter they further trap foxes, and fish shark and Polar cod.

Spring, with the hunting of basking seals, begins in March, a month earlier than in Nordost Bay, but on the contrary it does not last longer than till the end of May, except in the innermost branches of the fiords, where the ice remains longest. West of Sermilik and north of Sermiligaq particularly the ice lies longer than in the central part of the district and lends itself to this kind of sealing. In April the winter houses are deserted; the umiak is lashed to the sledge, where there is ice, or put into the water, where it is open, and the travelling and tent life begins, lasting from now onwards until the beginning of September.

About June 1st all the inhabitants of the district gradually assemble at Qingâq in the Angmagssalik Fiord in order to fish caplin, and then they scatter over a number of places which, however, are all situated on the outer coast. About the middle of July, the drift ice as a rule only forms a bar, 20 to 30 km broad, which in the course of the following month becomes more and more scattered and almost disappears in September. There are then plenty of bladdernose and saddleback which are hunted from kayaks, and also narwhals occur. The Eskimos do not remain longer at the outer coast than until the end of August when, after a short visit at some trout river, they go back to their winter dwelling places. At the beginning of November the *Storis* once more appears off the coast of the district, and presently it lies closely packed off the coast. Only then is there a possibility of the cover of ice forming on the fiords and so of the beginning of the winter hunting.

#### **A Transitional Cycle between Arctic and Subarctic: Rapids.**

Where the west coast of Greenland, south of Disko Bay, expands into a broad coast land, lies the Egedesminde District. The boundary towards the Holsteinsborg District in the south is conventional and follows North

Ström Fiord, but the people from both places have a common hunting ground on the islands at the mouth of the fiord. A similar conventional boundary divides it from the Christianshaab District in the northeast, and Kronprinsens Islands, which from an administrative point of view belong to Godhavn, must geographically and ethnographically be regarded as making part of the Egedesminde District. The hunting conditions can briefly be summarized as follows: an extensive and rolling country, intersected by long, narrow and widely branching fiords and with excellent conditions for reindeer which in this locality are still rather numerous; a confusing maze of medium-sized and small islands, between which there are sounds making natural roads for the autumn migration of saddleback, and which in winter contain numerous ice-free rapids; finally, some isolated island groups at the outer coast, off which the sea never freezes, so as to be safe for travelling. A few dwelling places are situated on these extreme islets; a few lie concealed behind the island belt proper, but by far the greater number are situated in the latter itself. The characteristic feature of the economic life is not that it forms a universally valid transitional cycle between Arctic and subarctic conditions, but the fact that according to the situation of the dwelling place the cycle must be most nearly referred to one or the other category. Besides, a new local factor makes itself felt, *viz.* the systematic halibut fishing in the southern part of the district. Here also fox trapping and bird hunting begin to play a part, as elsewhere in the south, and upon the whole the occupations show a certain universality, which again manifests itself in the fact that the population is comparatively well-off.

During the spring months, from the end of March till the end of May, the chief occupation is hunting fiord seal, which lie basking on the ice; but at the outer coast large lanes open, and there as well as at the rapids seal are hunted from the edge of the ice. Here also saddleback, bladdernose and barbed seal are hunted. In some localities, for instance the primitive dwelling places at Arfersiorfik Fiord, the Greenlanders already at this season move out of their winter houses; but it is only in June that the actual travelling begins, this form of life having been kept up in this district to an extent found nowhere else in Greenland, Upernivik alone excepted.

The chief thing now is to get a share in the caplin fishery, which contributes so largely towards the winter supplies, and the run having ceased in July, there are two possibilities to choose between. A great number of Greenlanders, particularly from the dwelling places at the outer coast, go to the halibut fisheries at Taseralik at the mouth of North Ström Fiord, whereas the inhabitants of the inner dwelling places chiefly go deer hunting and trout fishing at the heads of the fiords. In summer the principal object of hunting is the young saddleback, but in certain localities the bladdernose is also caught. In addition all kinds of sea birds, notably eiderduck, are



caught in the moulting period, which coincides with the latter part of summer. In many places shark fishing from umiaks plays a certain part.

The autumn months, September to November, are spent in the hunting of saddleback and, to a lesser extent, the other kinds of seal: bladdernose etc. Besides, it is at that time that the important walrus hunting takes place in the southern part of the district, and white whales are also caught. The inhabitants are frequently able to hunt from kayaks as late as December, but this month is the hardest time of the year, because the weather is often stormy. At the outermost dwelling places hunting from kayaks may, upon the whole, be practised almost throughout the winter, if not elsewhere then at lanes and holes in the ice, and at any rate the hunting from the edge of the ice means more than net hunting in such places. Thus the spoil in these parts is not limited to fiord seal, but also saddleback, bladdernose and sometimes white whale and narwhal are caught. In exceptional cases these whales occur as *savssat* in Disko Bay, but as a rule the latter can only be exploited by the Greenlanders in the northern part of the district.

**A Subarctic Cycle: Open Water.** In the Sukkertoppen District which nearly corresponds with the distance between South Ström Fiord and Godthaab Fiord, the coast land is considerably narrower than in the Egedesminde District, and it is further divided into a northern and southern part by huge piedmont glaciers, which are directly connected with the inland ice. In both parts of the district deer are numerous, and far more of these animals are killed every year than in the Egedesminde District. In the fiords ice forms every winter, but as dog sledges are not used, the ice is rather a drawback, and the dwelling places consequently centre on the outer coast. It is true that also here the thin ice between the islands may now and then put obstacles in the way of hunting; but it is only for shorter periods at a time, and even in the places where more solid ice forms it is not far to the open sea. There is very little drift ice. For years the *Storis* in summer does not extend so far north, and even though the west ice occurs somewhat more frequently in the northern part of the district, this also is an exception, and it does not freeze together with the winter ice. It is, however, due to the west ice that this region is regularly touched by the walrus and formerly also by the bow-head in the course of their migrations, but on the other hand the Greenlanders were so little familiar with whaling that an attempt made at the end of the 18th century at establishing a regular whale fishery had soon to be abandoned. Open water during the greater part of the year is thus the most important feature of human geography in this part, and consequently saddleback and not fiord seal is the chief animal hunted. Besides, there are rather considerable quantities of birds and halibut, cod, wolf fish and trout, and at the present time rational fishing is carried on at some places; but it is only of recent years, since the decline of seal hunting has become perceptible, that

fishing has found favour in the eyes of the population, and the well-to-do hunters, who own umiaks, still prefer to go deer hunting during the fishing season.

In spring there is some hunting of fiord seal which bask on the ice, but otherwise the hunting is characterized by the fact that the saddleback leave the coast in March, in some localities, however, not until April, whereas, on the other hand, the bladdernose begin to appear. April is an important month as far as bladdernose hunting is concerned. Also some birds are shot, and in the northern part of the district nets are set for white whales. In May when the saddleback is returning the people move out from their winter houses. As everywhere in South Greenland, summer begins with the caplin fisheries in June, and at the same time saddleback are hunted; but when the shoals of caplin disappear, the saddleback for the second time leave the coast, and it is then an old custom to enter the fiords with umiaks and spend July and August in deer hunting and trout fishing. Those who nowadays remain behind occupy themselves with the fishing of halibut, wolf fish or cod, according to the situation of the dwelling place. In some localities spotted seal and fiord seal, which at this season are making for the outer coast, are caught.

About the beginning of September the Greenlanders come back from their summer journeys, and at the same time the saddleback return once more, remaining at the coast until the following March. During the autumn months they are hunted from kayaks, shot from land in the sounds, or caught in nets. In October the hunting of eiderduck begins on a rather large scale and, a little later, of Brünnich murre. For that matter it is hardly possible to speak of real winter hunting in this district. Neither the ice hunting methods proper nor ice nets play any part, even though they are not unknown. It is the kayak hunting of the autumn which is continued, as far as possible, in December, January and February, though it is frequently checked by gales and young ice. During the first months of the year there is some regular walrus hunting in the north, round Kangâmiut. In some places there is also good fox trapping in winter.

**A Subarctic Cycle: Drift Ice.** The great Julianehaab Bay which constitutes by far the greater and more important part of the Julianehaab District has, on a former occasion, been characterized as the bladdernose area of Greenland, because this species more than any other seal makes the foundation of the economic life of the Eskimos in those parts. The hunting of bladdernose again depends upon the ice-pack—apparently not because a quantity of ice carries more seals, but because the seals remain longer at the coast, the greater the quantity of ice. By this dependence upon the drift ice the district comes to bear a certain resemblance to Angmagssalik, but with the difference that the ice occurs on the east coast in such large quan-

tities that here the slackening of it is the chief thing. As to the Julianehaab District, hunting possibilities there are, on the other hand, good, because the great, open bay catches the ice. It is due to the drift ice that Julianehaab, though the most southerly settlement of Greenland, cannot, as a rule, be reached by sea until September, which is the first ice-free month, but then again it remains free from ice till about the New Year. The new pack generally passes Cape Farewell at the end of January, and then it increases in quantity until May or the beginning of June. In the sounds round Cape Farewell winter ice and drift ice sometimes freeze together to a continuous floe, and this is the reason why typical ice hunting can be practised so far towards the south.

Besides bladdernose, barbed seal was also very numerous both in the pack ice and in the fiords until a few years ago, so that the Julianehaab Eskimos formerly carried on a very extensive trade with seal thongs on their journeys, which extended to Godthaab and still farther north. The amount of fiord seal has greatly diminished in the fiords, but in summer there are fiord seals at the outer islands which the Greenlanders think come from the outside. Saddleback, on the other hand, seem to pass by the district far out to sea and play a much smaller part. Bears regularly follow the ice from the east coast, whereas bowhead, walrus and deer are lacking. Since 1909 the fishing of Greenland halibut has been carried on along rational lines in such places where the seal has failed; this particularly applies to Agdluitsoq Fiord, and Norway haddóck contributes considerably to the larder of the fiord dwellers. Finally, there have been some attempts at cattle rearing and notably at sheep farming, but in the following no account will be taken of these quite modern changes in the economic life.

Sealing is still the most important occupation, even though it is of such a pronouncedly seasonal character that winter provisions become just as essential as at Thule. It is supposed that 75 per cent. of the annual sealing falls within the months of May to August. As early as the beginning of April a few bladdernose arrive at the coast, but the big invasion only begins in May, and about the middle of this month the Greenlanders move to the outermost islets and holms of the bay. At this time of the year many dwelling places are entirely depopulated. The ice lies so close, floe by floe, that not only is no ship able to penetrate it, but even a motor boat is frequently beset and must, at any rate, be navigated with the greatest caution. But the ice is the favourite haunt of the bladdernose, and the kayaks are, as a rule, able to find open leads. On the ice there are also barbed seal and fiord seal. The method adopted under these circumstances frequently approaches hunting from the edge of the ice, the Greenlanders getting out of their kayaks and shooting the seals from the floes. This is the happiest and most plentiful season of the district, and the sealing is so important that when the caplin



run begins in June, it is only women and old men who seek the fishing grounds, while the young men continue their sealing at the outer islands. At the end of June the bladdernose disappears entirely for some time; but from the middle of July there is a second migration of lean bladdernose which extends over a month. However, in August the Greenlanders move back to their dwelling places, and the most important sealing of the year is over. In the autumn some saddleback are caught, and there is a little trout fishing.

It is the great summer hunting which leaves its impress on the economic life of this district and gives it its special character. In winter the local differences are brought out more strongly, as it is decisive whether the dwelling places lie on the outer islands or in the interior parts of the fiord. At the outer dwelling places the sea is open, and bold kayakers sometimes pass far out to sea looking for saddleback and bladdernose, some of which keep off the coast throughout the winter. In the southern fiords and sounds there are still a great number of fiord seal, and as owing to the drift ice the waters may freeze solid, there is hunting from the edge of the ice, as well as the genuine Arctic hunting at the breathing holes. In the fiords towards the north there are now only a few seals, and so the hunting of Greenland halibut and Norway haddock becomes more and more common in this part. Yet, wherever sealing can be practised, hunting also in these localities takes place from the edge of the ice, and later in spring basking seals are killed. In addition, everywhere in the fiord regions a great number of foxes are trapped in the course of the winter. Birds, which are not very numerous in summer (there are only two or three small bird cliffs), are, in their turn, not unimportant in winter, when their meat constitutes an essential supplement to seal meat and fish. The slackest hunting season is from December to March, and then the population have largely to get along by means of fishing and the provisions put by in summer. The fact that the Julianehaab District is now no longer the Eskimo Eldorado which it was at one time reputed to be, is first and foremost due to the difficulty attaching to winter hunting.

#### PRODUCTION.

**Sea Mammals.** The economic life of the Greenlanders is still so largely based upon hunting and fishing that we only need to consider these occupations when trying to estimate the amount of production. As to hunting, precedence is naturally taken by the hunting of sea mammals, and more particularly sealing, because it yields the most universal profit in the shape of meat, skin, blubber etc. It is impossible to give an accurate figure of the number of seals annually killed in Greenland. From the Thule and Angmag-

ssalik Districts no information is at hand.<sup>1</sup> From the west coast, it is true, we have the so-called "hunting lists" which cover a considerable number of years, and in which is stated the yearly amount of each individual person's hunting, but as a matter of course no reliable statistical record can be based upon the latter, which at most must be regarded as a minimum expression of the amount of hunting.

Besides these hunting lists we have only the specifications of trade products which, it is true, go much farther back; but in estimating the amount produced they must be used with such caution and discretion that their value, in this respect, is very greatly diminished. It is a matter of course that as long as the population remains essentially at the original stage of development, it has greater use for its own products than for imported goods, and therefore trading with native products is naturally of no great importance as compared with production as a whole. Later on the opposite will be the case, and in lean years the Eskimos will then frequently sell skins and blubber, which strictly speaking they need for themselves. If conditions again improve, they will keep, for their own use, a great amount of these products, and although this means less trade, it does not, on the other hand, imply a diminished production; finally, if by the development of the fishery a new group of people with purchasing power are created within the country—people who are themselves unable to procure the necessary skins and blubber—the Government purchase of native products will be further diminished, although this does not apply to production.

Therefore, we had better limit ourselves to the hunting lists which, however inaccurate they may be, will always show the tendency of the movement through a number of years. About 1850 Rink estimated the number of seals killed every year at 50,000 in North Greenland and 42,000 in South Greenland, or about 15 and 8 seals per individual, respectively. During later years the average of the total amount of seals killed in West Greenland varies between 75,000 and 120,000 or about the same figure as seventy-five years ago; but it is true that the population in the meantime has very nearly been doubled, or in other words, a very considerable *relative* decrease has taken place. Further, the average within most recent years (1920—24) has only been 78,642, or dangerously close to the minimum limit. However, conditions, in this respect, are not the same in the different districts. How they are in North Greenland appears from the following table:

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<sup>1</sup> As to the new settlement of Scoresby Sound it may be mentioned that during the first year after the establishment (1925—26) more than 700 seals and about 60 walruses were killed. These numbers are certainly exceptionally great and due to the fact that no regular hunting has previously been carried on. On the other hand there is every reason to consider the new settlement a success.

Table IX. Average number of seals killed annually  
in North Greenland.

District	1862—70		1870—77		1910—20	1920—24	
	Total	per indi- vidual	Total	per indi- vidual	minimum and maximum	Total	per indi- vidual
Upernivik.....	10,496	16.7	11,040	17.0	17,800—21,000	16,999	15.6
Ũmánaq.....	7,642	10.6	9,068	13.2	16,000—21,200	14,404	10.1
Godhavn.....	2,944	11.3	2,456	9.7	1,600— 3,400	1,934	5.4
Ritenbenk.....	6,069	15.2	6,266	13.1	4,400— 6,800	4,966	8.7
Jacobshavn.....	3,517	8.8	3,580	8.6	2,400— 4,800	3,651	6.1
Christianshaab....	4,965	9.6	4,504	8.5	2,900— 3,700	2,596	4.9
Egedesminde.....	12,583	12.7	7,182	7.3	11,800—16,300	10,207	6.5
North Greenland...	48,215	12.1	45,562	11.0	57,000—77,200	54,757	8.9

From this it appears that in North Greenland sealing taken as a whole has declined, totally as well as relatively, from the sixties to the seventies of last century. The relative decline, however, falls exclusively upon the southern districts, whereas Ũmánaq and Upernivik have both progressed. On an average also the eighties stand for a period of decline in North Greenland, but then, during the following ten years, an improvement took place, which however, as far as Upernivik was concerned, was partly due to the fact that people moved north to hitherto unexploited hunting grounds. This improvement continued in several districts until about 1912, but after that time a reaction set in once more. As already mentioned, the statements contained in the hunting lists must be regarded as minimum statements; but nevertheless it appears that in four districts — including the three largest: Egedesminde, Ũmánaq and Upernivik — the average for the last years is *below* the minimum of the preceding ten years. It is true that the number of seals killed nowadays is higher by a few thousands than in about 1850 and 1860, but, owing to the growth of the population, there has nevertheless been a relative decrease of from 15 or 12 seals per individual annually to 9.

However, taken as a whole the number of large seal (bladdernose, barbed seal, full-grown saddleback) killed, in spite of the falling off, was somewhat greater in 1920—24 than the minimum amount of the same species killed during the preceding ten years. In other words, it is only the small seals (north of Jacobshavn practically only fiord seal, farther south also young saddleback) which show a falling off, and this, from a quantitative point of view, is naturally the lesser of two evils, although it makes itself very much felt, because the fiord seal is nearly the only species which is killed in winter.

This decline in sealing can hardly be termed voluntary, *viz.* caused by the population having given it up in favour of fishing. A change of this kind can hardly be said to have taken place except in the Egedesminde District,



where there is a growing halibut fishery. The halibut and shark fisheries are, it is true, rather considerable at Jacobshavn, but then sealing shows no decline in this district. Still it must be admitted that the figures from 1920 to 1924 which are only derived from the incomplete hunting lists, cannot very well be compared with the more accurate statements of Porsild from 1910 to 1920, and so there is reason to believe that the decrease, during later years, has not been quite so great as it might appear.

If we then turn to South Greenland, we are confronted with the following facts:

Table X. Average number of seals killed annually  
in South Greenland.

District	1874—83		1883—91		1891—1901		1908—18	1920—24	
	Total	per individual	Total	per individual	Total	per individual	minimum and maximum	Total	per individual
Holsteinsborg.....	2,116	3.7	1,860	3.2	3,335	5.3	1,200— 4,200	1,661	2.1
Sukkertoppen.....	4,244	4.6	3,899	4.2	5,157	5.4	2,400— 6,300	2,168	1.8
Godthaab.....	3,610	3.9	4,086	4.4	4,451	5.0	2,400— 5,800	3,744	3.0
Frederikshaab.....	5,479	7.3	4,953	6.5	5,056	6.5	2,400— 5,900	4,684	5.2
Julianehaab.....	16,764	7.5	18,717	7.9	16,704	6.6	8,600—21,300	11,628	3.5
South Greenland....	32,213	5.4	33,515	5.2	34,703	5.8	18,500—43,500	23,885	3.2

These figures show that the amount of seals killed has always been less in the southern than in the northern province which is, however, somewhat counterbalanced by the fact that a far greater number—about half—are large seals. From 1870 to the eighties sealing has progressed a little, taken as whole, but relatively it has fallen off, only Godthaab and Julianehaab showing a somewhat greater amount of seals per individual than in the preceding period. The nineties, on the other hand, have been a period of progression as in North Greenland, except in the Frederikshaab and Julianehaab Districts. As compared with these years the last accessible information shows a general decline, as a whole and still more so relatively. In the Holsteinsborg and Sukkertoppen Districts the average for these latter years is lower than the *minima* from 1908 to 1918, and seeing that the latter, as contrasted with the statements for North Greenland (1910—1920) which were quoted above, are exclusively based upon the hunting lists, there is no margin for the incompleteness of the statement. Even though the average of the latter years is otherwise above the minimum amount of seals killed from 1908 to 1918, it appears all too plainly that sealing has decreased relatively everywhere in South Greenland from the nineties of last century; for the Julianehaab District from the eighties, and for the Frederikshaab

District even from the seventies, and if we go far as back as to about 1850, sealing in South Greenland generally has decreased from 8 seals a year per individual to 3.2.

In the Frederikshaab and Julianehaab Districts it is mostly the small seals which decrease, so that the percentage of large seals included in the annual amount for these districts is increasing, while in the northern districts of South Greenland fewer and fewer large seals are killed, the decrease thus making itself doubly felt. On the other hand, it should be emphasized that the great decline of sealing in this very region is not *exclusively* due to a decreasing number of seals, but to some extent also to the circumstance that many unskilful sealers have taken to fishing.

Only a total of 60 to 150 walruses are caught in the year, the greater number falling to the share of the Egedesminde and Upernivik Districts. Bowhead whaling has ceased long ago, and only one or two humpbacks are caught annually.

On an average 654 white whales and narwhals have been killed in North Greenland within the period 1920 to 1924, and 404 in South Greenland. In the latter region practically only white whales are killed, but as recompense there were captured within the same period a yearly average of 418 porpoises, while these animals are hardly to be obtained in North Greenland. The figures given correspond with the statements of the ten previous years, but as far as South Greenland is concerned they show a considerable decrease from last century, where in the periods 1883—1891 and 1874—1883 533 and 732 white whales respectively were killed annually.

**Fur-yielding animals and Deer.** The Polar Eskimos kill a large number of bears annually. Bear hunting on the west coast is only sure of yielding results in the two extreme districts, Upernivik and Julianehaab, and although a few bears are always killed annually between these localities, it is more or less due to chance. In 1920 to 1924 the annual average of bears killed amounted to 12 in North Greenland, and to 27 in South Greenland. This is a rather low figure for North Greenland, but according to the Greenlanders it has some bearing upon the fact that the Polar Eskimos have taken up winter dwellings in Melville Bay. On the other hand, the figure has been steadily decreasing from the period 1902 to 1907, but in 1887 to 1892 it was as low as at the present time. At Angmagssalik bear hunting yields a far larger, although there also a greatly fluctuating return, about a hundred skins being exported every year. The migration to formerly uninhabited places will surely, for a number of years, increase this return.<sup>1</sup>

On the northern part of the west coast to south of Disko Bay fox trapping yields very poor results, but in South Greenland the return is far greater, and furthermore the proportion between blue and white specimens

<sup>1</sup> In the new settlement of Scoresby Sound 115 bearskins were traded during the first year. Compare note p. 150.

is about 2 : 3, whereas in the north there is a small excess of the white. At Angmagssalik there are far more white foxes than blue, but the total production is, upon the whole, small.<sup>1</sup> For the period 1920—24 the average annual number of foxes trapped is distributed as follows:

	Blue	White
North Greenland.....	200	284
South Greenland.....	1240	861
West Greenland....	1440	1145

As compared with the decade 1908—18 this shows a decrease from 1722 blue and 1236 white foxes. This decrease mainly falls upon North Greenland, whereas the production in South Greenland has been pretty constant. However, for a number of years fox trapping has upon the whole been increasing, nearly proportionally to the population. In 1853—56, for instance, the total production of fox skins in Greenland was on an average only 1973.

Deer hunting culminated in the years about 1840. In 1837 alone the amount of reindeer killed is said to have been 37,000, and as late as in the forties 25,000 to 30,000 animals were killed annually. Of course this was a perfectly reckless amount, and in the course of a few years the reaction set in to such a degree that the purchase of deerskin stopped almost entirely about the sixties. Since then the return has risen quite slowly without, however, attaining anything like its former level, and during recent years there has again been some falling off. At the same time it should not be forgotten that deer hunting always shows rather considerable fluctuations. In North Greenland the return is far less than in South Greenland, whose broad outer land in its inner part is made up of an extensive, rather dry and hilly country which is best suited for the thriving of reindeer. In 1920—24 the average annual number of deer killed in North Greenland was 217, for the greater part in the Egedesminde District, and 1452 in South Greenland, mainly in the Sukkertoppen and Godthaab Districts, but partly also at Holsteinsborg and Frederikshaab. As far as North Greenland is concerned, this corresponds with the amount killed within the preceding decade, when it varied between 150 and 300, whereas South Greenland shows a decline, the annual production here fluctuating between 1900 and 2800 animals in the period mentioned.

**Birds, Feathers and Down.** The two species of birds which play the greatest part in the economic life of the Greenlanders are the eiderduck and the Brünnich murre. The latter is the most common bird in Greenland, but it is shot in somewhat smaller numbers than the more valuable eiderduck. Brünnich murre does not breed in southernmost Greenland and the eiderduck only to a small extent, whereas both species winter there in im-

<sup>1</sup> In Scoresby Sound 71 foxes were caught in 1925—26.



mense flocks. At Godthaab and farther north they build their nests, although the eiderduck has always been of little importance in the high basalt area, where there are no low islets. It is supposed that the number of eiderduck now shot in the course of a year amounts to 150,000 and of Brünnich murre to 100,000, the Government purchase of eiderskin rugs, which was started in 1903, having given an enormous impetus to bird hunting. This has led to such wholesale killing—notably south of Disko Bay—as to be absolutely destructive to the stock of eiderduck, and it will prove impossible to continue this traffic for any great length of time. Closely connected with this trade is the production of feathers which has greatly increased within recent years; also in this case, however, it will be impossible to maintain the present level.

The production of eiderdown has already declined very considerably. In the Sukkertoppen and Holsteinsborg Districts it culminated a century ago, but now it has dwindled so as to be practically *nil*. The Egedesminde District, whose countless islets make it an Eldorado for eiderduck, supplied at that time—with a population which was only an eighth of what it is to-day—between 1500 and 2000 kg of down annually; in 1912—17 the production of the district was 33 kg a year, and in 1920—26 only 30 kg. Upernivik is now the most important district for down. Also here there was a steady falling-off until about 1900; since then there has been an increase, so that in 1912—17 it was possible to supply 600 kg annually; but this is exclusively due to the population having moved out to the hitherto uninhabited regions in the north, and within a short time the figures are bound to decline. The average production of down was in West Greenland 1920—26 531 kg annually.

**Fisheries.** It must be admitted that if the economic life of Greenland had no other phases to show than those mentioned above, the outlook would be dark and pretty hopeless: the chief occupation, sealing, in a steady decline, at any rate in South Greenland; the hunting of bowhead entirely discontinued; deer hunting destroyed, perhaps for ever; and bird hunting in a fair way to suffer the same fate. Under these circumstances the investigations of the possibilities for fishing, undertaken by Ad. S. Jensen, and the consequent improvement of the Greenland fishery has been tantamount to a revolution in the economic life of the country. In this way there has been opened a perspective for the future which cannot be sufficiently appreciated, and not least because fishery also means profit to the women and the men who for some reason or other are unfit for the hunting of sea mammals. Fishery is now no longer an emergency trade which provides a supplement to the seal meat constituting the daily fare, but a mercantile enterprise which is carried on with a view to sale and export.

The basis of the export fishery is the Greenland halibut, which can be fished all the year round, and, because it is so fat, is just as fit for smoking

purposes as salmon. The trade with Greenland halibut which in former times was carried on at Jacobshavn, was included under the Government monopoly in 1903; but the whole of the production in 1904—05 amounted to 17 barrels only.<sup>1</sup> However, in 1910, on the initiative of the *Tjalfe* Expedition, a fishing post was established in Agdluitsoq Fiord (Julianehaab District), and in the same year the production increased to 702 barrels. Since then two more fishing posts have been established within this district, which now surpasses Jacobshavn. In 1922—23 the export of Greenland halibut culminated with a total production of 2758 barrels from the whole of the west coast, and as this species spawn in the deep sea of Davis Strait, the Greenlanders are able to carry on an extensive fishery without running any risk of over fishing. In 1924—25 the export was 1804 barrels.

The fishing of the common halibut is seasonal, limited in time to July and August, when it rises from the deep sea to Great Hellefiske Bank, and it is locally confined to the Holsteinsborg District and the adjoining parts of the Egedesminde and Sukkertoppen Districts. The fish are partly salted and partly, since 1924, tinned. In 1903 the trade was included under the monopoly, but even six years later the production had only reached 72 barrels annually. In 1925 the catch of the Holsteinborg fishing post amounted to more than 5000 halibuts and that of Kangâmiut to more than 4000 (in both places exclusive of the fish used in the country itself). From the former place 35,232 one kilogram tins and 31,516 half kilograms tins were exported. At Agto the production, since the establishment of the post, has varied between 60 and 200 barrels.

The cod fishery has been subject to great fluctuations, failing entirely in 1909—10. But since it was proved, during the cruise of the *Dana*, that the cod spawns on Fylla Bank there is reason to believe that this fishery will come to be of no small importance in the future. All the cod that can be sent home the same summer is salted, whereas the rest, which must remain in the country throughout the winter is prepared as "klipfish." Godthaab, Sukkertoppen and Holsteinsborg are the most important districts as far as this fishery is concerned, and the two former must also be supposed to hold out the best prospects for the future; in 1917 the cod suddenly appeared off Frederikshaab and Julianehaab, and of recent years there has been an enormous increase in the production, there being 23,500 kg in 1912, 243,500 kg in 1917, 681,000 kg in 1923, 956,000 kg in 1925 and 2,055,000 kg in 1926.

Formerly, the chief importance of the shark fishery was that it supplied the Greenlanders with dog's food, but now the liver is the most important product, and on the strength of this circumstance shark fishing has spread to South Greenland, particularly the Julianehaab District, where it has risen tremendously, even though it has by no means attained the level of

<sup>1</sup> A barrel corresponds to about 250 kg fish (live weight).

production of the northern province. In North Greenland this fishery varied between 28,000 and 35,000 sharks a year in 1910—20, and in South Greenland in 1908—18 between 5,500 and 12,300. In 1920—24 the average amount of sharks caught was 32,899 in North Greenland, and 6990 in South Greenland. For the period 1910—19 this gave a yearly average of no less than 5704 barrels of liver (which figure, however, includes some cod liver from South Greenland) as contrasted with 1843 barrels yearly in 1882—87. In South Greenland only, the production has increased to more than ten times what it was in former years.

The only Greenland fishery which has declined somewhat is trout fishing which, however, never was of any great importance from a quantitative point of view, as Greenland has no great rivers like those of Alaska and other regions round the northern Pacific, where there are huge salmon runs. Trout fishing in Greenland cannot pay the expenses of tinning, but a fairly large quantity of trout are salted. The production culminated in 1913 with 546 barrels, whereas in 1923 it had gone down to 178 barrels and in 1925 to 194 barrels.

**Areas of Production.** Within Greenland taken as a whole, the Thule and Angmagssalik Districts occupy a position, which from the point of view of production is something apart, and due to historical as well as to geographical reasons; historical, and indirectly also geographical, in so far as the inhabitants of these districts represent the most primitive stage of Eskimo civilization, and geographical, because they still have the possibility of being able to continue along the old lines, not least through the chances of migrating, which are supplied by the east coast and especially Scoresby Sound. The Polar and Angmagssalik Eskimos are still at the stage of domestic economy. Their production is principally directed towards supplying themselves with necessities, whereas their surplus and articles of luxury are disposed of.

A contrast to these districts is presented by West Greenland. Geographically, it deviates essentially from the others by the impossibility of extending its hunting area; but in return the mental powers of the population are more advanced, although, it is true, up to the present this has not greatly manifested itself in the field of economy. In point of principle it has always been the aim of colonizers not to introduce European civilization blindly, but to adapt this to the needs of the country and particularly, as far as possible, on the old economic basis—a sound and proper principle, because a certain continuity is an essential condition for all cultural growth. It is owing to this principle that the Greenlanders have not been hopelessly ruined as most other primitive tribes.

In the course of two centuries of colonization, an inevitable movement away from the original state of affairs has, however, gradually taken place, also in the economic sphere, and the West Greenland of the future will be confronted with a problem, in which the question of the maintenance or non-



maintenance of the Government monopoly is to a certain degree a subordinate one, but where the real *punctum saliens* is this: the transition from domestic economy to financial economy, from locally to universally regulated production. When viewed in its widest bearings this problem also is the outcome of geographical conditions. It is a question of the extent to which European civilization is able to exploit the Arctic, the same question which defeated the old Norsemen, but which now in its turn will be confronting a technically better equipped posterity. And to the extent that this question can be answered in the affirmative, it is to be supposed that development will proceed with the inevitableness of a law of nature. To regulate this development so as to benefit the needy population of the country will be the task of the Danish Government, a noble task, but fraught with responsibility.

It is a matter of course that the nearer the approach of natural conditions to those of temperate regions the greater the chances of European civilization. In Arctic West Greenland, *viz.* the country round, and north of Disko Bay, the production will therefore for an incalculable period be based upon the hunting of sea mammals, more or less supplemented by the fishing of Greenland halibut and shark. It is in the transitional area and the subarctic regions of the west coast that the problem becomes urgent. It clearly appears from what has been said above that in these parts the basis of an economic life along purely Eskimo lines becomes less and less, whereas on the other hand fisheries are flourishing. There is no doubt that the importance of fishing, in the southern part of the west coast, will increase, for natural conditions seem to be excellent, especially if the waters farther off from the coast can also be intensively exploited. Sharks are to be found everywhere, the Holsteinborg District has its halibut, the Sukkertoppen and Godthaab districts their sea cod, Julianehaab Greenland halibut, and Frederikshaab might supply a considerable export of Norway haddock, if a market could be created for this excellent fish. However, to base the whole of the economic life of Greenland on fishing is attended by a certain risk. For the very reason that the natural conditions of this country are so peculiar, it cannot be compared with the northern part of Norway, for instance, which it otherwise greatly resembles. Its pronouncedly isolated situation makes it a serious matter to try to specialize too much. Agriculture cannot be practised, and in the future, as at the present day, all cereals must necessarily be imported. Whether fishing will also be able to pay for the import of meat and skins, articles which in this climate are as essential as cereals, is an open question, for these products can hardly be obtained from other parts of Greenland. The improvement in fishing and the improvement of the meat supply are, therefore, merely two aspects of the same matter and cannot be separated.

The extremely extensive sheep farming which is now going on in the

Julianehaab District seems, however, likely to develop into a factor of far greater importance to the economic life of the country than it is at the present, provided the Greenlanders can be taught the proper care of animals, to clear away shrubs, to ditch, to air and manure the soil, which all belong to modern farming. In the Frederikshaab and Godthaab Districts there also seem to be possibilities for sheep farming. In the latter place, however, reindeer breeding may have a still greater future, as was shown by the journey undertaken in 1905 by Knud Rasmussen, together with two Lapps, for the purpose of investigating this possibility. The Lapps did not hesitate to state that certain parts of the district were better feeding grounds for deer than their own country, and it should be investigated, with due regard to all considerations, as to whether sheep or reindeer breeding is likely to turn out the best paying business here. Along the country from Godthaab to Disko Bay it will also be possible to introduce reindeer, although here the reports of Knud Rasmussen and the Lapps sound less favourable. However, it should be borne in mind that their journey in these regions was undertaken with greater speed, and that the number of wild reindeer which were killed in the years 1835 to 1845, and which almost exclusively came from the area mentioned above, can at a minimum be estimated at 150,000 but in all probability it was considerably higher (about 250,000). This corresponds pretty closely with the number of tame deer which at the present time live in Alaska. Of course it is hardly probable that such a large number of tame deer will ever be able to subsist in these districts, as they cannot roam about so freely as the wild; but on the other hand the facts seem to show that conditions as a whole cannot be unfavourable to the reindeer trade. The vast territory lying in front of the inland ice in the Sukkertoppen and Holsteinborg Districts is known to be a low and rolling, steppe-like country with a very small amount of precipitation. Heavy snowfall, which fills up the valleys and may be a danger to Scandinavian reindeer breeding, has not to be taken into account here. We also avoid another danger which Stefánsson rightly points out in connection with the introduction of reindeer breeding into Canada, *viz.* the enormous herds of wild deer which, during their migrations, would entirely absorb the domesticated animals. Furthermore wolf and wolverine are not to be found in West Greenland, for which reason the calves would be left untouched. The objection that the Greenlanders may not be suited for reindeer breeding is of course entirely groundless, which quite clearly appears from the enormous change which has taken place in Alaska since 1892. Besides, all European and Siberian reindeer nomads have at some time changed from a hunting to a pastoral mode of life.

## COMMUNICATION.

## TRAVELLING AND TRADING.

**Causes of Travelling.** News spreads along the coasts of Greenland with a rapidity which is most surprising, when considering the primitive means of communication. On the common hunting grounds the men from different dwelling places meet, and unless they are prevented by gales, poor ice etc. there are not many days, when someone does not pay a visit to the neighbouring dwelling place. Besides this casual intercourse there is also a more regular one, based upon the hunting, trading, and at the present day, the mail journeys.

It is first and foremost the hunting expeditions which have made the Eskimos a people who rarely commit themselves to one place, although this inclination is possibly spurred on by a primitive wandering impulse and assisted in any case by the undeveloped social organization. Spring and summer is the time for the hunting expeditions, when the winter houses are more or less empty, and the families move from one place to another, according to the changes of the hunt. Moreover, it frequently happened that a journey of a special kind might extend over several years, the family building a house and spending the winter where they happened to be. In the primitive community a Greenlander often spent the greater part of his life travelling, from the time when he was passively carried about in the fur hood of his mother, until he was laid to rest in a lonely stone cairn among the hills.

In the chapter on habitation we have mentioned the hunting expeditions, and, for certain regions, fuller details have also been given under the annual economic cycle. In this place we will, therefore, content ourselves with emphasizing the fact that in the regions which are the least influenced, *viz.* the Thule and Angmagssalik Districts, these expeditions have been maintained to the greatest possible extent, whereas on the west coast they are only kept up to any great extent in the Upernivik and Egedesminde Districts, although they are not lacking entirely anywhere. On long journeys when the family came to regions yielding some natural product which was lacking in their own part of the country, they took care to provide themselves with it, and very often without the intervention of the local population, the latter only being necessary in certain circumstances, for instance in the case of baleen, the acquisition of which presupposes a knowledge of the difficult and dangerous whale hunting. Otherwise the middleman's profit—to make use of a modern expression—was saved. Soapstone was broken where this mineral occurred, driftwood was gathered where it was to be found in abundance etc. There is only a difference of degree between breaking of soapstone and gathering, for the idea is the fundamental law of the original Eskimo community, according to which no one is able to acquire territorial



dominion, including the presupposed products of the territory in the shape of minerals, animal life etc.—a law which is now, however, beginning to disappear on the west coast.

Trading expeditions are no longer undertaken in Greenland, beyond the excursions which the population from all the dwelling places are obliged to undertake in order to make purchases at the nearest trading post. Formerly things were different. On the west coast, journeys to Taseralik at the mouth of North Ström Fiord were undertaken for trading, no less than for hunting purposes. There, Eskimos from Disko Bay and perhaps from still more northerly parts, met with their countrymen from as far south as the Julianehaab District. In his diary for 1766 the Rev. Glahn wrote: "To this large gathering some travel in order to see their relations; some to look for a bride among so many beauties; some to settle their litigations before this solemn gathering; some to stand their trial in wrestling, slapping and being slapped on the back; some in order to be healed by a more noted physician, who is supposed to come here; some for the sake of buying and selling; some to be spectators, and some to find a hiding place in the large gathering when they intend to commit some foul deed." (Grönl. Selsk. Skrifter. Bd. II, p. 42). The place was then called Perutussut, but this name has passed entirely out of use. Each year, Glahn says on another occasion, there is a large singing contest between the people from Amerdloq Fiord at Holsteinsborg and the North Greenlanders. Another, perhaps less visited meeting place in West Greenland was Agpamiut in the Sukkertoppen District.

At Aluk off the east coast of Greenland and close to Cape Farewell, similar meetings were held between the inhabitants of West and East Greenland, who assembled there for the hunting of bladdernose. The importance of Aluk as a trading place is, however, not particularly old, hardly more than about three hundred years. The East Greenlanders had nothing which the Julianehaab Eskimos could not as easily, or more easily, procure in the course of their extensive journeys along the west coast. Therefore, intercourse was hardly very lively in pre-European times, and this state of affairs did not cease until the West Greenlanders, through their contact with whalers and later on with the Danish trading posts, came to possess European commodities, of which the East Greenlanders were naturally eager to get their share. Within this period Aluk seems to have reached the climax of its importance. When at last the net of trading posts extended as far as Cape Farewell, which was attained by the foundation of Julianehaab in 1775 and, particularly, of Frederiksdal in 1824, Aluk was again thrown into the background as the East Greenlanders now continued their journeys as far as these posts. It has already been mentioned how these journeys, in the 19th century, led to the depopulation of Frederik VI Coast, but a stop was put to them by the foundation of Angmagssalik.

According to tradition there was also a trade connection between the

Polar Eskimos and the inhabitants of the Upernivik District. It was, however, interrupted by hostilities, and the accounts of it almost assumed a legendary character. After communication had once more been established by the Danish Literary Expedition of 1903—04, the Polar Eskimos made annual voyages to the Upernivik District with the object of trading, and although these trading expeditions were almost discontinued after the foundation of Thule in 1910, there has since that period hardly been one winter, when the mail sledges at any rate have not left their tracks on the ice of Melville Bay.

**Methods of Travelling.** The transitional stages between the daily hunting excursions and long journeys are so gradual that all means of communication can, as a matter of fact, just as well be regarded as hunting implements. The Greenlanders use their sledges when sealing on the ice, or when hunting bear and reindeer; the kayak is very largely a necessity for the hunting of sea mammals in open water, and the umiak or large travelling boat was put to sea when the great bowhead appeared off the shore. From this it also appears that practically all communication, in one way or another, is connected with the sea. In these trackless mountains, where as it were all economic interests centre round the sea, it is the latter which serves as a connecting link between the inhabitants. On land there is practically no communication. In order

to avoid open spaces or hummocky ice, or to save long detours, a sledge trail may lead across land; but as quickly as possible it again tends towards the sea ice. It is only when two dwelling places are situated close to one another on the same island or peninsula that natural paths may, in the course of time, spring up between them. The only means of communication which more decidedly belong on shore are the straps, which are passed across the forehead for carrying burdens, and skis, the latter being furthermore introduced with the European colonization.

Under these circumstances, the topography of the country has little influence upon communication. In winter it is the open rapids and hummocky



Fig. 51. Carrying strap,  
Egedesminde District.  
(National Museum).

ice which put obstacles in the way, sometimes also soft snow and the extremely disagreeable phenomenon known by the Greenlanders as *pulsineq* (snow penetrated by salt water) which is almost impassable. In the darkest period journeys must be regulated by the moon. In summer the drift ice, particularly on the east coast and in the Julianehaab District, is the greatest impediment to communication, other disadvantages being dangerous promontories, calving glaciers, gales and fog. On the other hand, the vessels of the Greenlanders are so flat-bottomed as to pass unchecked across innumerable skerries and shallows which are of the utmost danger to navigation proper.

Wherever the Greenlanders travel, they must be prepared to take care of themselves. They must, to a very large extent, subsist by means of their own hunting; they must provide their own dwelling, whether a snow house or a tent. Distances are great, and not everywhere can they be sure of finding houses and human beings. On the longest journeys, such as the excursions formerly undertaken by the Julianehaab Eskimos to Taseralik, or of the Angmagssalik Eskimos to the west coast, they spent one or two winters underway. Therefore, it was not individuals but whole families who went on these journeys. Naturally the men could not do without their wives for sewing, dressing skins etc. for such long periods as were frequently covered by the journeys; the children followed the women, and thus the number of travelling companions swelled, as well as the necessary baggage: the voluminous skin tents, the heavy stone lamps and pots, besides all sorts of more or less indispensable articles. Not only inclement natural conditions, but also the considerable "inner resistance" of the journeys, as F. von Richthofen called it, made communication difficult.

From time immemorial certain routes were used, which by the experience of generations had been pointed out as the easiest of passage. Like other Eskimos the Greenlanders know every hill and every skerry in their own part of the country. Admirable are the primitive "maps" which the Angmagssalik Eskimos carved in wood. In the Thule District sledge trails are sometimes laid across lobes of the inland ice, as for instance the only route which leads from Etah to Inglefield Gulf, there being always open water off Cape Alexander. Sometimes the sledges pass as far south as Clemens Markham Glacier, before the descent takes place. From North Star Bay, as well as from the more southerly Parker Snow Bay, other routes lead across the inland ice to Cape York. Through Melville Bay the trail, on the other hand, keeps to the sea ice. Almost in a straight line from Bushnan Island to Holm Island there is an open lead which marks the boundary between the floe along the shore and the floating icefields outside. There is always good and smooth ice along this lane, which the Eskimos call the "mouth of the sea," because the ice-bound sea, as it were, breathes through it.

Owing to the innumerable rapids in the Upernivik District the sledge



trails of this region become very intricate. Detours are often necessary, and travellers must frequently drive right across islands or behind promontories. Off Svartenhuk Peninsula the ice in winter forms hummocks, so that the common trail leads from the small fiord Mitdlôrfik on the north coast overland to Arfertuarssuk, which debouches into Nordost Bay, the excellent ice cover of which permits sledging practically everywhere. The trail farther south from this bay begins close to its head in Qarajaq Fiord and cuts across the base of Nûgssuaq Peninsula to the small bight where the outpost Qeqertaq is situated. This trail is generally called after its highest point, Majorqarssuatsiaq, which reaches a height of no less than 680 m. Somewhat farther east is the so-called Boye's trail which is more comfortable, but longer and little frequented. The dwelling places of the Egedesminde District are connected by a network of sledge routes which, however, are all cut through by the rapid Sarfaq in Arfersiorfik Fiord which is never covered over and must be crossed with umiaks. To the back of these routes there is, however, a trail from Sydost Bay, across the alluvial plains through the interior of Arfersiorfik Fiord, from where, off the west point of the island of Tunertôq, sledges are driven overland to Amitsuarsuk, one of the northern branches of North Ström Fiord. Here the trail joins another trail from Iginiarfik, and from here the journey is continued by various routes, partly on the fiord ice, partly across lakes to North Isortoq and farther overland to North and South Kangerdluarssuk and Amerdloq as far as Holsteinsborg where it terminates.

In the Angmagssalik District the cover of ice is so unreliable at the outer coast that the sledge routes to the trading post have all, for shorter or longer distances, been led across the Angmagssalik Island. The trails from Sermilik to Angmagssalik Fiord also partly pass over land.

Travelling by boat always takes place close to the coast and, as far as possible, sheltered by the skerries and outer islands. Only when there are rapids which are difficult to navigate do the Greenlanders deviate from this rule. In places where the land contracts into a narrow isthmus, they carry their kayaks and umiaks across, and thus frequently save long detours. Especially when there are lakes, where the vessels for a time can again be put to sea, these portages are used, being frequently the same which are employed by the sledges in winter.

**Trading.** If we are justified in judging from conditions among other Eskimos, a great part of the trade done in Greenland originally consisted in the exchange of gifts. There has always been actual selling and buying, but as the social organization was essentially based upon the principle that each family was self-supporting, trading was principally done with other districts in Greenland, where the products required occurred in greater quantity or better quality. In the olden time a fixed standard of value was entirely lacking. To all intents and purposes everything only had the value

derived from the momentary demand, and in this manner all saving up of capital was prevented. Trading was a mere barter and comparatively unimportant from an economic point of view. Still it held, as it were, the germ of further development, and a certain insignificant production took place with a view to selling. In the Godthaab District which is distinguished by its soapstone, some families were occupied in the manufacture of lamps and pots, which were sold in the north and in the south. The Julianehaab Eskimos whose descendants are still considered economically far-sighted and alive to everything new, made their long journeys to the above-mentioned Taseralik Island in order to trade seal thongs from their own region as well as articles of soapstone, which they procured underway at Godthaab. In return they bought narwhal tusks and baleen from the North Greenlanders.

Apart from the trade with these articles there was no doubt in the earliest times a very lively commerce in siliceous slate which was used for knife blades and the heads of hunting weapons. It originates from the sediments underlying the basalt in North Greenland, but by means of barter it has been scattered far and wide. A knife of telluric iron occurring in the basalt has been found at Fiskernæs in South Greenland, and likewise cryolite from Ivigtût has been found in the Upernivik District. The Polar Eskimos first and foremost wanted wood, and they used birdskin jackets and dovekies preserved in blubber as means of exchange.

At a later period when European vessels began to visit the coast, foreign articles became in demand, particularly wood, hard ware and beads, and they spread to regions where the vessels never came. Dating from the end of the 17th century we have a very interesting list of articles which were in particular demand in West Greenland, including scissors, knives, needles, cheap woollen and linen stuffs, kettles and glass beads. The part played by Aluk in this traffic has already been described. The European sailors and the Eskimos at first seem to have managed by means of a kind of "dumb trading" as illustrated by the following passage from an old report: "*Ihre Arth zu handeln mit den Frembden ist: dass sie aus den Wahren der Frembden auslesen | was ihnen beliebt | und auff eine Seite legen | dargegen von ihren Wahren | so viel Ihnen deucht | das sie dafür geben wollen | auch hinlegen. Dann leget jeglicher ab und zu | biss sie des Kaufes einig werden.*" (*Des weltberühmten Adami Olearii colligirte und viel vermehrte Reise-Beschreibungen etc.* Hamburg 1696, p. 88).

#### MEANS OF COMMUNICATION

**The Kayak**, the light and rightly famous skinboat for one person, is the daily means of communication for men during the whole of the period when sea and fiords are free from ice. The kayak is the element of Eskimo culture which, almost before any other, impressed the European mind.

Apart from the circumstance that skinboats are mentioned in connection with the Skrälings in Vinland, the oldest report is due to Claudius Clavus, who tells that he has seen the Greenland pigmies "captured on the sea in a small skinboat which now hangs in the cathedral of Trondhjem." As mention is made in the same place of a long skinboat, evidently an umiak, the former description must apply to a kayak.

In the Thule District the kayak was introduced by the families who immigrated from Baffin Island in the sixties of last century, but at Morris Bay on Washington Land the Bicentenary Expedition found the remains of an old kayak. Its type seems to be much more closely related to the West Greenland kayaks than the one which was introduced later, and which in all particulars resembles the Baffin Island type. In the Thule District the kayak cannot be said to be an absolute necessity for hunting. There are in those parts men who are really great hunters and who do not possess any kayak, as for instance in the region round Cape York, where the ice lies almost all the year round. It is different in the remainder of Greenland, where it is an absolute necessity, as long as the old sealing culture is maintained. In 1923 the total number of kayaks in West Greenland and Angmagssalik was as shown by the following table:

Table XI. Number of kayaks in West and East Greenland in 1923.

District	Total Number	Number belonging to			Proportion between the number of males and kayaks
		Hunters and fishermen	Boys	Employed natives	
Julianehaab.....	609	495	73	41	2.6
Frederikshaab...	172	148	16	8	2.4
Godthaab.....	207	199	5	3	3.0
Sukkertoppen...	215	205	5	5	2.7
Holsteinsborg...	136	101	28	7	3.0
Egedesminde....	405	324	54	27	1.9
Christianshaab..	128	96	24	8	2.1
Jacobshavn.....	79	67	12	0	3.4
Ritenbenk.....	146	102	35	9	1.9
Godhavn.....	82	63	9	10	2.1
Ūmánaq.....	332	280	31	21	2.1
Upernivik.....	270	223	31	16	1.9
West Greenland.	2,781	2,303	323	155	2.4
East Greenland..	138	128	3	7	2.5

From this it appears that in proportion to the population the greatest number of kayaks are to be found in the Egedesminde, Ritenbenk and



Upernivik Districts, the smallest in Jacobshavn, where the most important trade is fishing, which is largely practised from wooden boats. Upon the whole, the number of kayaks is very large. Of six men of an age between 15 and 50, five on an average possess kayaks. During the last forty years the number of kayaks on the west coast has somewhat increased—from 2216 in 1881 to 2781 in 1923—although not quite proportionally to the increase in the population. This relative decrease has naturally some bearing upon the decline in sealing and the change to fishing.

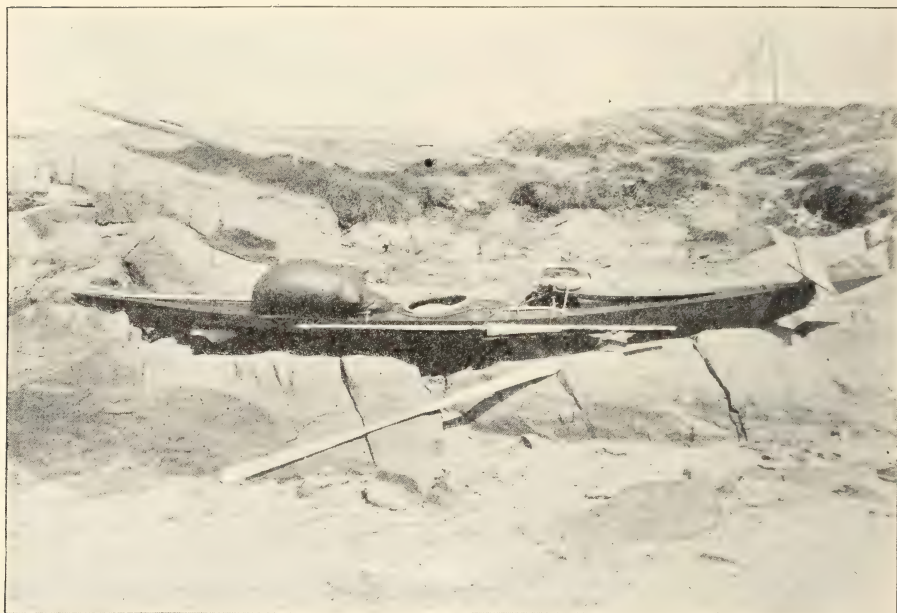


Fig. 52. Fully equipped seal hunter's kayak.  
Egedesminde District. (Birket-Smith).

A common West Greenland kayak varies in length between 5 and 5,5 m (fig. 52). The building is rather intricate, requiring a good deal of practice. At the store wood is bought, which is suitable for the gunwales, and after the length of the boat has been decided upon—more or less roughly—both boards are planed at the same time. Holes for cross pieces and ribs are drilled in the sides and lower edges respectively and then widened with a knife. The holes for the cross trees pass right through the gunwales. There are as a rule six of cross pieces to be placed behind the manhole, and five for the front part the boat, to which are further added three slightly curved pieces, which are placed immediately in front of the manhole. After all the cross pieces have been morticed into the gunwales, every second one is tied to the latter, beginning with the foremost. Behind the hindmost cross pieces the gunwales are tied together, but nowadays there are some who

use a wooden stick instead. The gunwales are then joined fore and aft, with two tree-nails at each end.

The upper frame of the kayak thus being nearly finished, the ribs are morticed into the lower edge of the gunwale. These ribs are now most frequently made of hoops, but on rare occasions willows are still said to be used. The first rib to be placed is the front one behind the manhole, after which the remainder are inserted, alternately in front and behind the latter. In the place where the gunwales are joined, a notch is cut to support the keelson, which is now to be laid. It most frequently consists of two pieces, joined together with tree-nails. Fore and aft it is rather high and shaped in such a manner as to fit into the jointings of the gunwale, where it is lashed with two thongs at stem and stern. The middle part of the keelson is low and, at the upper edge, provided with cross grooves, into which the ribs are grooved and then fastened with tree-nails. On each side of the keelson a side lath (corresponding to the bilge streak of the umiak) is placed in a similar manner, and then lashed fore and aft to the keelson. At the extreme points in stem and stern a pointed sternhead is finally placed, which is lashed to the gunwales in two places.

Only when this point is reached, a broad curved cross piece is inserted immediately in front of the manhole and fastened to the gunwale with tree-nails, after which two sticks are placed in a longitudinal direction across the nearest cross pieces fore and aft. At last holes are drilled in the gunwales in order to fasten the cross straps extended over the deck of the kayak, and in the edge over each hole a notch is cut to hold the strap.

The kayak cover consists of three or four depilated saddleback skins. The sewing must be done with the greatest care, and in order that the seams may be waterproof, they are first sewed on the outside and then on the inside. The covering is sewed together at the points, so as to fit at stem and stern, and then pulled over the frame work. A string is tied to the foremost cross piece, and afterwards the skin is sewed with zigzag stitches across the deck, so that it fits tightly around the sides. At last it is sewed with running stitches, and in North Greenland the inner seam is drawn very tightly together, so that peculiar, raised seams are formed, which are eminently water-proof, but in return difficult to keep free from ice. The seams are greased with blubber which has become tough and glutinous.

The thongs across the deck are passed through the holes in the gunwales and corresponding holes in the covering, and fastened with knots. Immediately in front of the manhole there are three thongs, and slightly in front of these two more. Behind the manhole there are two thongs close to one another, and right fore and aft there is a single thong. Below these straps the hunting weapons and the remaining outfit of the kayak are attached, and in order to keep them in place various buttons and buckles of ivory are placed on them. In cold weather, however, these buttons make it difficult

to remove the ice from the kayak, and consequently there are many who only have a few or none at all. While as a rule they are quite plain, there are also some fine specimens carved in the shape of various animals. On the right side of the kayak, slightly in front of the manhole, a bone button is placed separately on quite a small thong, preventing the harpoon from sliding overboard. This button is also sometimes carved; but young hunters frequently use only an angular piece of wood.

Finally the kayak skin is fastened at the manhole to a wooden ring, frequently furnished with a bone mounting. The edge of the boat covering, in which slits are cut, is bent under the kayak ring and buttoned or sewed tight to the latter.

Sometimes bone knobs are placed on the points of the kayak, but more often the front and back part of the keel is shod with a narrow bone rail, which protects the cover against wear, when the kayak is pulled ashore or on the ice. Kayaks painted with whitish gray oil colour are sometimes seen. The paint protects the skin and makes the kayak less easily discernible.

Grave finds which have been made in West Greenland from the heathen times show that the keel was not originally provided with grooves for the ribs but that the latter were lashed with seal thong or strips of baleen. In addition, the cross pieces were not properly pegged into the gunwales, but only rested in cavities. I have seen both of these primitive features employed in kayaks in the Upernivik District. Whereas otherwise the construction is very nearly, in all details, the same everywhere on the west coast, the kayaks deviate in the proportions of stem and stern in relation to the total length, as well as regards the nature of the skin and the seams. In this manner we get six main types of kayaks in West Greenland, besides the type found on Frederik VI Coast which has been introduced into the southern Julianehaab District. The characteristic features can be briefly summarized as follows:

1. *Julianehaab—Frederikshaab*. Hardly any sheer. Long stems. Almost only white (*i. e.* grainless) skin. Flat seams.—Introduced by the Eskimos immigrated from Frederik VI Coast: similar type, though with shorter stems, nearly flat bottom and vertical sides.
2. *Godthaab*. Distinct sheer. Shorter stems. Dark skin (*i. e.* skin with the grain preserved) and flat seams.
3. *Sukkertoppen—Holsteinsborg*. Sheer. Very short stems, the stern formerly curving upwards, as is still sometimes seen in Kangâmiut. Dark skin. Flat seams.
4. *Egedesminde—Disko Bay*. Sheer; in out-of-the-way places still having the shape of a tall sharply built stem with a deck sloping strongly backwards. Long stem, shorter stern which until a short time ago was curved upwards. Dark skin. Raised seams.



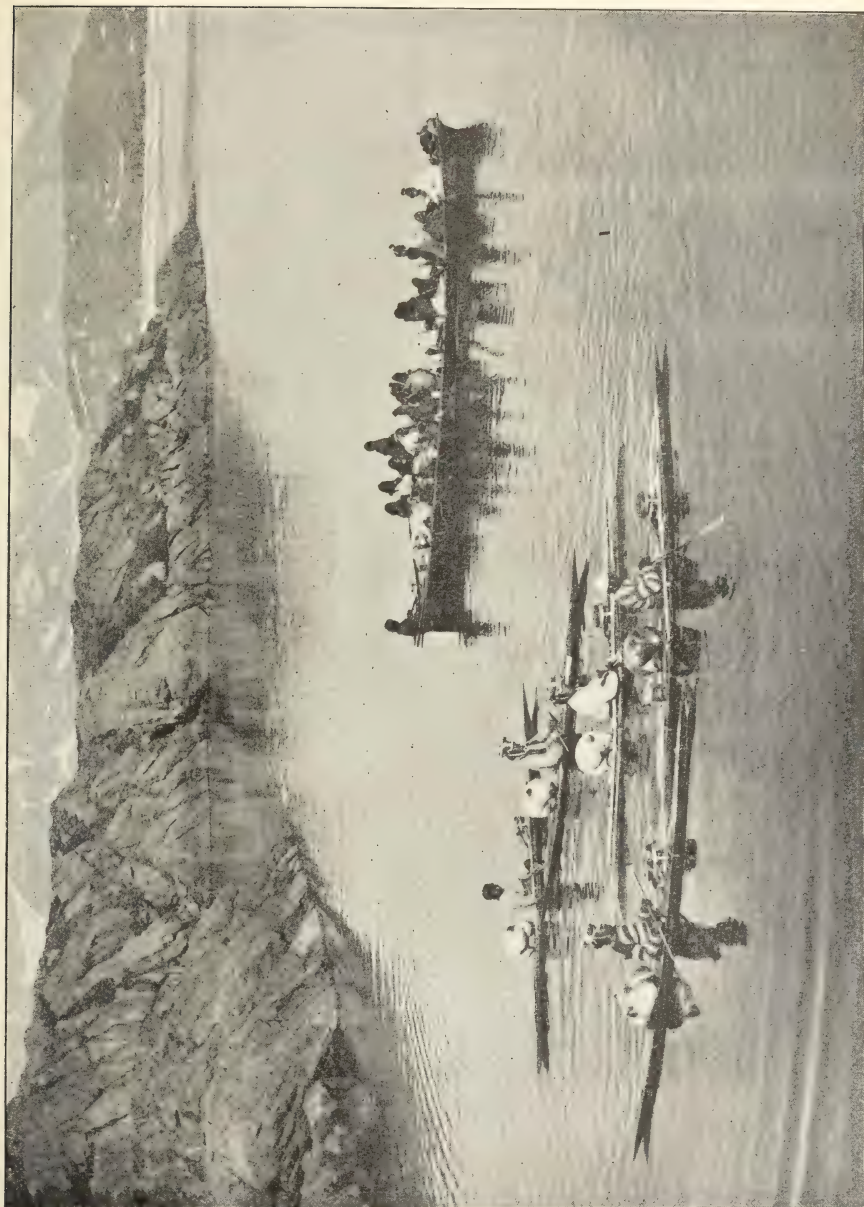


Fig. 53. Kayaks and umiak from Angmagssalik. (J. Petersen).

The kayaks have the straight stems which have now completely superseded the turned-up stems of former times.

5. *Ūmánaq*—*South Upernivik*. Like the preceding type, but with a somewhat shorter stem and stern. The latter still curved upwards.
6. *Upernivik District*, north of South Upernivik. No sheer. Short stem and a very short stern, the former slightly, the latter very distinctly curved like a parrot's beak. Dark skin. Raised seams. The two straps immediately in front of the manhole as a rule oblique.

Within these principal types there are sub-types, according to local conditions. The flat stern is gradually spreading from the southern part of the west coast. It is said that this is because the curved stern catches the wind and so is apt to turn the kayak. On the other hand, it has the advantage that the bumping of the kayak is less audible and that it can more easily be hauled across the ice when held at the stem. This, however, naturally plays the greatest part in the north. There may be some, if only a slight difference in the proportions, according to whether the chief occupation of the owner is seal hunting or fishing. Fishermen are apt to make their kayaks broader and more flat-bottomed, both because they are, as a rule, less able kayakers, and because they have more opportunity for lying still, which is most easily done in a broad kayak. For the same reason some fishermen have a float of skin, sometimes stretched across a triangular frame, attached to the side of the kayak.

In olden times the Angmagssalik kayak deviated no more from the West Greenland types than these from each other. It was a little longer and broader than the kayak on the southern part of the west coast. The stern was curved somewhat upwards, as in North Greenland, but already ten years after Holm's expedition the type commonly used was the one with the straight sterns (fig. 53).

On the other hand, the Thule kayak deviates very considerably from all the other types, being, however, so closely related to the Ponds Inlet type as to be hardly distinguishable from the latter. It is longer and broader and generally built on far heavier lines than the West Greenland kayak. From the high and sharp stem the deck slopes backwards towards the manhole, which is placed far back. As contrasted with the southern types the kayak ring does not fit closely, like a belt, round the paddler, but is oblong — trapezoidal — in shape and somewhat raised in front, where the paddle, when worked leisurely, rests on a small plate of wood or ivory. The stern is only curved slightly upwards, and downwards it passes gradually into the almost flat bottom. The cross straps on the deck are fewer in number than further south, in accordance with the fewer kayak implements carried. In construction the Thule kayak differs from the others in that each rib does not consist of one piece, but of three, presumably an adaptation to the inadequate supply of the material which was formerly at hand, both here and in northern

Baffin Island. Now, however, the West Greenland influence has begun to make itself felt in various particulars as regards the construction.

As to skill in kayaking, the Polar Eskimos as well as the Greenlanders from the northern part of the West Coast are on an average far inferior to the inhabitants of the southern regions. An exception is made by the hunters of the small Vester and Hunde Island groups in Disko Bay. Together with the Greenlanders of Kangâmiut in the Sukkertoppen District, of Kangeq in the Godthaab District, and Cape Dan in the Angmagssalik District, they are considered the best kayakers in Greenland, or in the world. If the kayak capsizes, an able kayaker can rise by means of certain movements of the paddle or even of the throwing board. This manoeuvre naturally requires considerable practice, but unfortunately it is passing more and more into oblivion in many places. Even if the kayaker cannot rise, he is not, however, entirely lost. By certain quiet movements he can get out of the kayak, and some kayakers are so skilful in rising that they prefer to capsize on purpose when a heavy sea approaches, and then again rise, when the wave has washed over them. On the ice and over portages they carry the kayak on their heads. With the heavy Thule type this is, naturally, not possible any more than is rising again.

The kayak is propelled by a double-bladed paddle, in West Greenland of the olden times provided with two lanceolate blades, whereas straight cut blades are now the only ones found. The length is somewhat more than 2 m but varies slightly in the various localities, as the middle piece is not everywhere of the same length. Besides, the blades may be somewhat different in breadth etc., thus possibly to a certain extent adapted to local surroundings (for instance rough sea). The paddles are frequently provided with a narrow bone edging along both sides and a broader semicircular mounting at the end. These are, however, generally lacking in localities where it is difficult to procure antler. The Angmagssalik paddle is like the West Greenland one, whereas in the Thule District it is longer, with two very narrow blades, two thin handles and a heavier middle piece. The paddle is held with both hands. The blade is not put vertically into the water, but a little obliquely, moving like a paddle on a paddle steamer. With every stroke the hand nearest to the blade is moved slightly nearer the latter and, after the stroke, again withdrawn. The paddle has thus a perpetually gliding movement, from one side to the other, in the hands of the paddler. The kayak is like a bicycle. As long as it is going, anybody may paddle it conveniently, if only he can guard himself against nervousness. As soon as he stops, the kayak is, however, extremely liable to capsize. The kayaker therefore passes the right blade in under the straps in front of the manhole, and lets the left one rest in the water. In that manner he may, with a little practice, keep himself upright for any length of time.



Even if a kayak with a straight stem is used, it may still be swung round by the wind, when the shooting screen is set. Besides, the last stroke of the paddle may also give it an undesired turn. In order to prevent this, an intelligent Jacobshavn Greenlander, in 1867 or 1868, constructed the so-called "kayak rudder," a piece of wood which is attached aft below the keel and counteracts the driftage. In the strict sense of the word, it is naturally not a rudder, but a kind of keel.

In order to remove the film of ice which in frosty weather gathers on the deck of the kayak, the West Greenland and Angmagssalik Eskimos use the so-called kayak scraper, a narrow, curved knife of antler or ivory; in several localities along the west coast an incision is made at the point of this knife to be used when the kayak straps are to be cleaned of ice, or the entrails of a dead seal thrust back into the wound.

**The Umiak**, or woman's boat is a large travelling boat made of skin. In former times every household, on the west coast as well as on the east coast, had their umiak; now, however, they are rarer, partly owing to the scarcity of skins, and partly because the journeys are fewer and shorter. This particularly applies to the southern part of the west coast, where the umiak is not common any more, except in the Julianehaab District. In the Thule District where the journeys to the summer camps are undertaken by means of sledges, it does not occur at all, but the word is retained in certain place-names. In 1923 the number of umiaks and wooden boats was as follows:

Table. XII. Umiaks and wooden boats in Greenland in 1923.

District	Umiaks	Wooden Boats
Julianehaab.....	54	57
Frederikshaab.....	0	42
Godthaab.....	12	69
Sukkertoppen.....	12	60
Holsteinsborg.....	13	68
Egedesminde.....	74	41
Christianshaab.....	22	22
Jacobshavn.....	11	57
Ritenbenk.....	17	9
Godhavn.....	9	10
Īmánaq.....	23	21
Upernivik.....	36	12
West Greenland.....	283	468
East Greenland.....	37	2

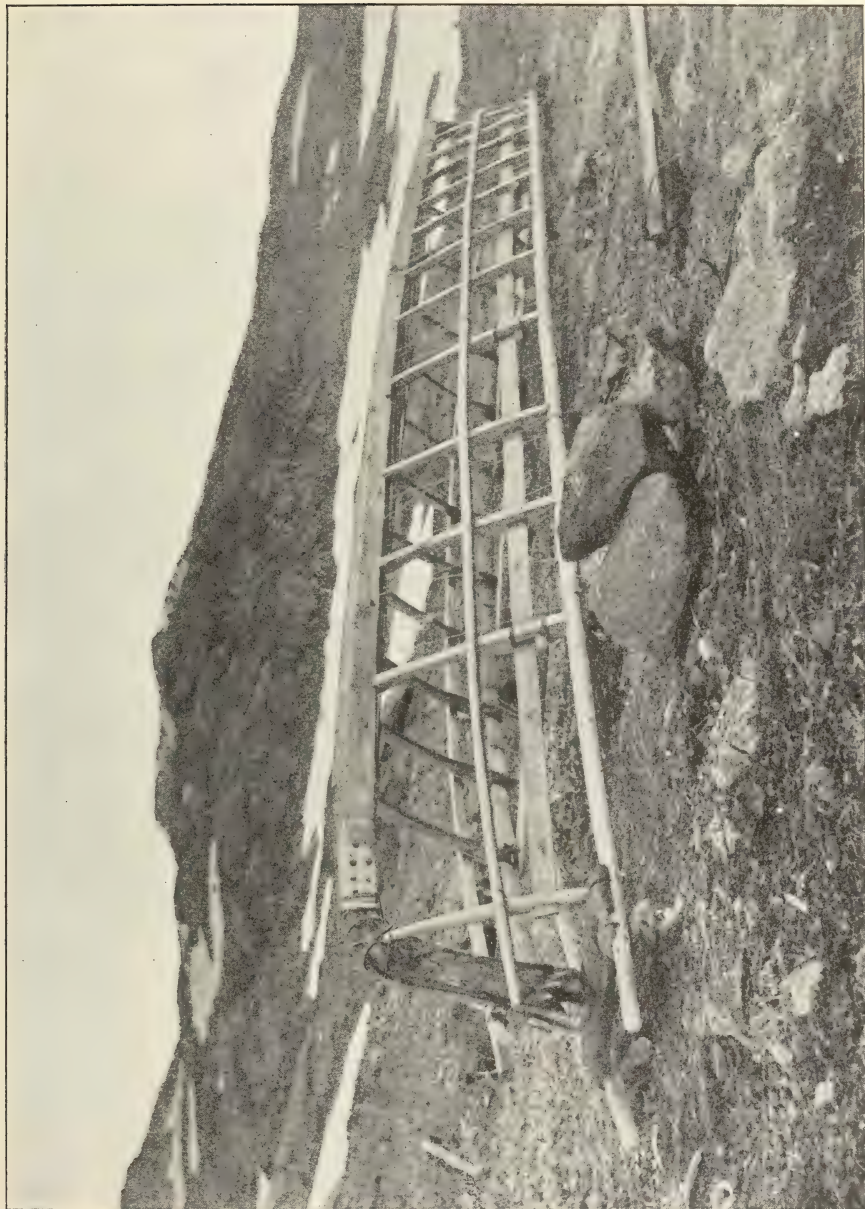


Fig. 51. Frame of umiak, Angmagssalik. (Joh. Petersen).

During the last forty years the number of umiaks on the west coast has been somewhat fluctuating, but in spite of the increase of the population it has declined from 341 in 1911 to 283 in 1923. This is due to the increasing number of wooden boats, which in many respects are able to replace the umiak, whereas for sealing it is difficult to find a substitute for the kayak.

Nowadays timber for umiaks is always bought at the store, with the exception of the material for stem and stern posts only, these being frequently made of driftwood. These posts are made first; they are large pieces of wood, slightly taller fore than aft. At the top both of them terminate in a peg; below they are curved and in the middle provided with a groove for the keelson. On each side there are notches for the bilge streaks, two stout beams along both sides of the bottom, at what would be the bilge of a round-bottomed boat. The keelson, a long board placed edgewise, is grooved into the stem and stern posts and fixed with nails. Then the two bilge streaks are laid. They are of a similar appearance to the keelson and attached by rivets made of antler, but as yet only at the stem. After that the builder proceeds to place the cross pieces in the bottom of the boat, beginning at the middle and passing alternately in both directions. The cross pieces are short planks, the length of which depends upon the width of the boat. The upper edge of the cross piece is plain, whereas the lower edge has two slightly curved incisions. At both ends of the cross piece there is, at the upper edge, a small projection resting on the bilge streak, being lashed to the latter with seal thongs. In the middle, at the lower edge of the cross piece, there is an incision into which the keelson is grooved. Only now when the cross pieces have been inserted, are the bilge streaks nailed to the stern in the same manner as to the stem.

The ribs are raised in the spaces between the cross pieces. On an ordinary west coast umiak there are as a rule about seven on each side. At the lower end of each rib there is a hole, and through the latter and a corresponding hole in the bilge streak the rib is lashed with a seal thong. On the inner side of each rib there is an incision, and these incisions serve to hold a couple of long boards which are nailed on the inside of the boat from stem to stern. On top of the ribs the gunwales are placed, consisting of a couple of round sticks, lashed to the ribs. Fore and aft the gunwales project above stem and stern, sometimes united so as to form an angle, but at present generally terminating in a couple of horns. According to the Greenlanders the angle was given up because it broke so easily, when the umiak was launched from the ice.

The builder then proceeds to finish the stem, which is done by placing a trapezoidal wooden plate, the stem head, on the peg of the stem post. To this the gunwales are lashed, and the two inner boards are nailed to the stem post. The other bow is left unfinished, until the seats are placed. As with the cross pieces in the bottom of the boat, the builder begins in the middle.



One seat is placed at every pair of ribs, being grooved and lashed to the rib and resting upon the inner side boards. A separate small seat is placed at the stern for the steerer. When at last the stem is completed, the outer side boards are placed one on each side, being nailed to every second rib a little lower than the corresponding board on the inside. Now the framework of the boat is complete.

The skins of saddlebacks are considered the best for umiak coverings, and of these about twenty are required. When skins of the large barbed seals



Fig. 55. Umiak carried across a portage, Egedesminde District. (Birket-Smith).

are used, seven or eight are sufficient. In Disko Bay painted umiak skins are not rare, but this decoration — which further serves to make the skin more water-proof — is quite modern. The covering is fastened to one stem head with bone nails and is pulled over the framework. Midway of the inner side board two thongs are placed. By means of these thongs, which are made of two whole saddleback skins and passed through holes at the edge of the covering, the latter is stretched down over the gunwale and lashed to the side board.

The size of the umiak largely depends upon the pecuniary circumstances of the owner, and the size of his family, but a typical umiak is about 10 m in length. There are only slight differences in shape between the umiaks on the west coast, beyond the fact that the northern type has greater sheer and more sloping stems than the southern one. A more striking difference is that from Godthaab and farther south umiaks are covered with light (grain-

less) skins, while in the north they are covered with dark skins. As to the construction, the South Greenland type is at a higher stage of development, grooving being used to a greater extent than in North Greenland, where the Upernivik type especially shows characteristic primitive details. The Angmagssalik umiak is closely related to that of the southern part of the west coast, with its light covering and the extensive use of grooving which even surpasses that of the west coast. On an average, the umiaks of the east coast are also smaller, presumably in consequence of the great quantities of drift ice which make navigation difficult. The umiak is extremely useful when travelling in summer, for on account of its flat bottom it takes a far greater load than a European boat of the same length. The travellers are independent of harbours, as the boat is easily pulled ashore, wherever there is an accessible beach, and it is carried across portages without any difficulty. When it is pulled ashore for the night and turned in order to be dried, resting on one side on a pair of wooden props, it frequently gives the travellers shelter for the night. A drawback which naturally makes itself most felt in the *Storis* is that the covering is easily torn by sharp fragments of ice. The hole is temporarily stopped with a piece of blubber, until the boat reaches the shore where the women, with needles and sinew thread, quickly repair the damage.

It is a gay sight to see an umiak on its passage through one of the sun-glittering fiords. It is stowed to the gunwale with skin tent, boxes, cooking vessels, skin bags with clothes or blubber, large pieces of raw seal meat, children, puppies . . . . The women row—hence the name “women’s boat”—moving the oars with short, rapid strokes and frequently lightening their work with singing. In the stern sits the head of the family, steering, and the umiak is followed by the young men in kayaks, like a dreadnought accompanied by torpedo boats. The oars frequently have short and broad blades, but European oars with longer and slenderer blades are generally preferred. Every oar is passed through two loops, attached to the inner board of the umiak. Tholes are not used, and the handle rests freely on the gunwale. Apart from the still rather rare cases, where the umiaks are provided with rudders, they are steered by the aid of an oar. The steering oar has a considerably longer blade and a shorter handle than the ordinary oar.

When whaling in the old-fashioned manner, where it was essential to approach the prey noiselessly, the men paddled, standing up in the umiak, with short one-bladed paddles. Gutskin sails are mentioned from ancient times and are certainly pre-European, but nowadays sails are always made of some kind of textile, for instance, old flour sacks. The mast is either in the bow or further back, and sails of a type approaching European main sails are becoming common. On the east coast no sails are used.

**Wooden Boats.** According as the summer journeys decrease and fishing is gaining ground, wooden boats become more and more common. Their

number now exceeds that of the umiaks, as appears from the table on page 174. However, few of them are actual travelling boats (whale boats); most of them are small — even very small — flat-bottomed dories, which are used by fishermen. On this account there are so many, for instance at Jacobshavn, where in fine weather they are seen in great numbers on the bank. Many have retained a number of the features of the umiak in their shape, as appears from their name, *umiaussaq*, “what resembles an umiak.” European dories are also used for fishing, for instance at Holsteinsborg.

**The Sledge.** It is by no means every man who is able to keep a sledge and a dog team, even where natural conditions make it possible. Only able hunters and well-to-do persons can do so. In West Greenland the sledge, with one exception (1923), does not occur south of the Holsteinsborg District, but as pointed out earlier in this work, this has possibly not always been so. In the Thule District the sledge is what the kayak is elsewhere in Greenland, and the teams are large and good. I have seen a Polar Eskimo driving with eighteen dogs before his sledge. In 1923 the number of sledges and dogs was as follows (the Thule District not included):

Table XIII. Number of sledges and sledge dogs in West and East Greenland in 1923.

District	Sledges		Sledge dogs	
	Total number	Proportion between number of males and sledges	Total number	Average size of team
Julianehaab.....	0	—	0	0
Frederikshaab....	1	—	5	5
Godthaab.....	0	—	0	0
Sukkertoppen....	0	—	0	0
Holsteinsborg....	50	8.3	268	5—6
Egedesminde....	172	4.5	1,121	6—7
Christianshaab...	99	2.7	648	6—7
Jacobshavn.....	62	4.4	417	6—7
Ritenbenk.....	81	3.5	444	5—6
Godhavn.....	55	3.1	309	5—6
Ũánaq.....	255	2.7	1,270*	5*
Upernivik.....	176	3.0	1,060	6
West Greenland..	951	—	5,542	5—6
East Greenland..	86	4.0	397	4—5

As might be expected, the number of sledges in proportion to the population is greatest on the Arctic part of the west coast, although somewhat

\* A great number of dogs killed owing to extraordinarily bad food conditions.



smaller at Jacobshavn where there are such big fisheries. In the areas forming the transition to the subarctic regions the sledge is still common in the Egedesminde as well as in the Angmagssalik Districts, but already rarer in Holsteinsborg. During the last forty years the number of sledges has increased considerably, not only absolutely but also relatively (357 in 1881 as against 900 in 1923, in North Greenland), and this seems to be a sign of growing prosperity. The average size of the teams varies between five and seven dogs on the west coast, but teams of up to ten dogs are not uncommon. The fact that they only consist of four or five dogs in the Angmagssalik District, is due to the small and light sledges which are employed there. Upon the whole, it should be borne in mind that only in the Thule District does the sledge serve as a means of communication on actual family journeys, whereas elsewhere in Greenland it is almost exclusively used by single persons and so does not require a large team.

A comparison between the genuine Eskimo type and the Siberian built-up sledge or the American Indian toboggan clearly shows that the former, with the low and narrow runners, is principally adapted to the ice. Still, as it is entirely lashed together without the use of nails, it is sufficiently elastic to make its way over rough places, and across smooth ice it glides like a boat in quiet waters.

At the time of Hans Egede the West Greenlanders seem to have used narrow sledges with nearly straight runners, a natural result of the prevailing scarcity of wood; but since access to wood has become easier the sledge has undergone a number of alterations. Least altered are the sledges of the northern Upernivik District where they are still rather narrow and have slightly curved runners. Though the primary form is the same all over the coast, the type nevertheless offers certain points of variety. Where the sledges are used much on land, such as in the Jacobshavn and Holsteinsborg Districts, they have markedly curved and rather short runners, so that they can easily be driven up between the rocks. At places where they must frequently cross rough ice, the sledges are of a similar appearance. On the other hand, greatly curved runners are only to a certain extent an advantage on rough ice, for as the points of the runners must be made of separate pieces of wood, they become less solid. This is why the Polar Eskimos favour comparatively straight runners, each of which can be made out of one piece. Where many rapids and open lanes occur, long sledges are preferred. Everything considered, the natural conditions are, however, so varying in all districts that the sledge must be able to pass clear under all circumstances: rocky ground, steep hills, rough ice or ice cut up by currents. Upon the whole the West Greenland sledge is unparalleled for "all round" use in the Arctic, whereas, for instance, the sledge of the Central Eskimos is only fit for transporting great loads across an even surface.

Fir wood for runners and cross pieces is bought at the store. First the

runners are manufactured, a pair of long, curved boards, tapering somewhat in front, and as mentioned above with points made of separate pieces. The points may be rounded, but are, as a rule, cut off straight. Close to the upper edge a hole is drilled for each cross piece. Shoeing for the runners and the points are then attached. Nowadays the sledges are nearly always shod with iron, but in former times ivory or whalebone was used. Bone, as a matter of fact, is preferable to iron in very cold weather, because the metal sticks to the snow. After that the cross pieces, six or more in number, are shaped. They are about 12 cm broad, tapering a little towards the ends, where two notches are cut in both edges. The distance between the notches on the same



Fig. 56. Polar Eskimo dog sledge. (Thalbitzer).

side corresponds with the width of the runner, so that, in placing the cross piece, they are lodged each on their own side of the runners. Seal thongs are passed through the holes along the upper edge of the runner and are lashed round the notches of the cross piece. After lashing, the upper edges of the runners will appear to incline slightly inwards. This detail is of great importance towards facilitating sledging.

In conclusion a couple of "upstanders" are made, two upright wooden poles, which as a rule end in bone knobs at the top and below run out into a foot. The material for these upstanders is by preference driftwood with a natural curve. They are placed at the back of the sledge on top of the cross pieces, so that their feet are right above the runners, and in this position they are lashed with seal thongs. When lashed they reach the armhole of the driver; they incline slightly backwards and inwards, and at the top they are connected with a cross rod. From the upstanders, directly under the place where the cross rod is attached, and downwards to two holes in the edge of the hindmost cross piece, a couple of thongs are stretched, crossing

each other in an ivory buckle. A sealskin bag for various trifles is generally suspended from the upstanders. Danes sometimes have a net extended between them, but this is never used by Greenlanders. The upstanders facilitate the lashing of the load to the sledge, and the driver by means of them is able to steer, push or keep back the sledge as required when on rough ice.

An ordinary West Greenland sledge is rather more than 2 m long; the width between the noses is 70 to 80 cm and at the back 1 m. It is frequently painted blue or green. When the sledge is to be used, a rug of dog-or deerskin is placed upon it. It is tied with a thong, passed round the projections of the cross pieces. With this line the load is also lashed to the sledge, the unused part of it being whipped round the points of the upstanders.

In the Thule District it was formerly necessary to make sledges of many pieces of wood or bone patched together, as appears from the well-known picture in John Ross' "Voyage of Discovery" (1819); and therefore they were shorter as well as narrower than the West Greenland type. Now it is different, as is to be expected in a country where the sledge plays such a dominating part in the daily life. They are now more than 3 m long, although their width has not increased in proportion, and so they are considerably narrower than the southern type. Whilst the West Greenlanders content themselves with cheap fir wood, the Polar Eskimos make their sledges of oak and ash. The runners point straight forwards, for which reason each of them can be made of one piece and they do not break so easily. The cross pieces project only slightly beyond the runners and are lashed to the latter, two holes being bored in the runner for each cross piece. As the lashing thong cannot be whipped round the short cross pieces, it is passed in under a heavy seal thong which runs along the outer side of the runners. The upstanders are shorter than on the West Greenland sledge and lack the "feet" of the latter.

A contrast to this type, very solid throughout and adapted for long journeys with heavy loads, is the small and light Angmagssalik sledge, which is principally used for bear hunts and for the transport of the umiak during the spring trips. An Angmagssalik sledge is only 1,50 or 1,75 m long and correspondingly narrow and low. The noses of the runners do not curve upwards, and the upstanders are unusually broad, terminating in a kind of head, which forms a convenient handle.

As mentioned above it is a doubtful benefit to have the sledge runners shod with iron. The friction becomes perceptibly stronger, when the temperature sinks below  $-20^{\circ}$  C., and when it freezes more than  $40^{\circ}$  it is like sledging in sand. It is a common remedy among the Eskimos to minimize the friction by forming an ice film under the runners, and in Greenland this is used (although without a muck layer as among the Central and some Labrador Eskimos) both in the Thule and the Upernivik Districts, but otherwise there is in Greenland so much sledging over land that this method cannot be used. On long expeditions the Polar Eskimos also use extra shoeings of walrus hide.



The sledge is always pulled by dogs. The Greenland race, known in Labrador and the Northwest Territories as "huskies", is the well-known variety of *Canis familiaris* with a long, pointed nose, upright ears, a tail bending upwards and a very thick coat. The skull is supposed to bear the greatest resemblance to that of the North American wolf. They are rather big animals as compared with many European races, but slightly smaller than the Hudson Bay sledge dogs. On the other hand, they are said to be a little larger than the dogs of the Atlantic coast of Labrador. According to Porsild 115 cm from muzzle to tail root and 25 cm from foot sole to the upper edge of the shoulder blade is the standard measurement of an average Greenland dog, with which corresponds a weight of 30 kg, when the dog is in good form, but not fat. However, some may become considerably larger and weigh almost as much as 50 kg. Most of them are spotted, either white and black, or white and red, but in some cases the dark spots are so large that the colour becomes almost uniformly black or red. The handsomest dogs are of a uniform yellowish grey, with black-pointed hairs. Some dogs which may be of different colour, but are frequently almost entirely white, have particularly long, soft and curly hair, but the coat is quite thin, and the animals have very little power of endurance and are poor workers. Sometimes a contagious distemper has raged among the Greenland dogs. Hydrophobia is also known and is carried by foxes. In order to prevent the spreading of dog distempers, very rigorous rules are enforced. All import of dogs is forbidden, and dogs must not be brought from West Greenland to Angmagssalik, or from Thule and Upernivik to the remaining parts of West Greenland.

While the dogs of the Polar Eskimos are always tied at the dwelling places, the West Greenland dogs roam about freely. In winter, when the dogs are used regularly and cannot get food for themselves, they are fed every day or every second day. Their food generally consists of dried fish, caplin, fiord cod or shark. Shark's meat must be dried first, as the dogs otherwise become "shark drunk" after having partaken of it. The poisoning manifests itself in torpidity, shivering and violent diarrhoe; as a rule, it is a passing indisposition, but in a few very severe cases, it may end in death. Still, dogs can be gradually accustomed to fresh shark's meat. The Greenland dogs are violently greedy, and nothing eatable—including old seal thongs, boots etc.—is safe from their teeth; therefore kayaks, harnesses and similar things are carefully placed out of their reach. In the Thule and sometimes in the Angmagssalik Districts, the dogs have the points of their fourth premolars broken off, in order to prevent them from eating their traces. This custom is beginning to gain ground in the Upernivik District, but is otherwise not used on the west coast. In each team there is always an old dog, the "boss", which is the undisputed ruler of the rest. In the flanks of the team a couple of trusted dogs run, but there is no leader.

The dogs' harness consists of two large loops of depilated skin (as a rule worn-out kayak skin, though skins of barbed seals are considered the best), which are connected at the back with a sheet-bend of the draught strap. Through the loops the forelegs of the dog are passed. Their standard length should be measured from the angle between thumb and forefinger to the elbow. They are united by means of three cross straps, two of which lie respectively around the breast and belly of the animal, the third one around its nape. The breast strap is placed a little behind the middle of the loops, and the nape strap a little in front of the belly strap.

As mentioned above a draught strap is attached to the harness and lies along the back of the dog, terminating in a buckle. The latter is made of ivory or antler, though antler is often preferred, because it is not liable to break when striking against a stone.

Every dog in the team has its own trace, the standard length of which is about three or four fathoms, but even that is short compared with the Labrador and Central Eskimo traces. As there is no leader among the dogs, all the traces of a team are of the same length. They are solid seal thongs, provided in front with a bone toggle which is passed through the buckle on the draught strap. In West Greenland the traces terminate at the back in a bone knob, both at Angmagssalik and Thule with a buckle resembling the one which is placed farthest back on the draught strap of the harness. The traces are placed on the front strap of the sledge, a very heavy seal thong, about 1,5 m in length, in front of the cross pieces. The Angmagssalik Eskimos are able to unfasten the

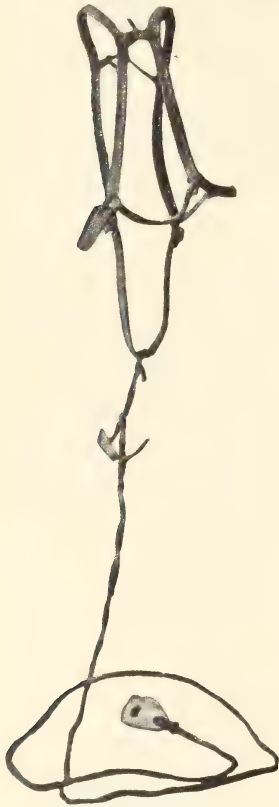


Fig. 57. Dog's harness and trace, Angmagssalik. (National Museum).

front strap on one side, whereas with the Polar Eskimos it is divided into two pieces, a longer with a noose and a shorter with a toggle of ivory or musk-ox horn. In both cases the buckles of the traces can simply be pushed up on the front strap. On the other hand, the front strap of the West Greenlanders is made inseparably fast to the sledge, and the traces are lodged in a sling, the bone knobs preventing them from slipping. Somewhat behind the centre of the long front strap there is a short cross strap, on which a beautifully profiled bone tube is sometimes placed, to be used as a handle when the driver wants to pull the traces towards him without stopping, for instance in order to help a dog which has become entangled in them.

The dogs are mainly directed by shouts, and only in cases of emergency with the whip. The latter consists of cracker, lash and handle. The cracker is a very thin strip, made by preference from the belly skin of a fiord seal and attached to the lash with a cut splice and half hitch combined. The lash is a seal thong, a little longer than the traces and slightly increasing in width towards the handle. At the very back, in order to make it more stiff, it is often plaited of two or four thongs with cut splices. At Angmagssalik there are bone beads on the hindmost part of the lash, while the lash of the Polar Eskimo is always simply tied to the handle. The lash must be very carefully dried, softened and frequently greased with blubber. It is lashed to a wooden handle which in West Greenland must be of the length of an arm, whereas the Polar Eskimo measures from ground to hip. A North Greenlander is, as it were, borne with a whip in his hand, and he manipulates it with surprising dexterity. He understands to perfection how to hit the exact spot he wants. As a rule a West Greenlander wields the whip against the sun, and rather horizontally, whereas the Polar Eskimo wields it with the sun and rather vertically. The chief movement is in the wrist; a stiff wrist is the most common mistake of the beginner. While a heavy whip is easier to use, an expert as a rule prefers a light one.

The starting signal in West Greenland is a long, hissing *ssik!* The stopping signal is a whistle or the verb *unigpoq!* i. e. one stops. "To the right!" is called *ile* or *ililile*, and "To the left!" *io* or *íuíúio*. These cries are uttered in a high treble and not with particular force. The signals of the Polar Eskimos can hardly be rendered with common letters, but sound almost like *hauro* (to the left) and *asuk* (to the right). In order to urge the dogs to exert themselves the driver shouts *hokk, hokk!* and when he wants to stop, he utters a kind of pitiful moan. The West Greenlanders shout far less at their dogs than the Polar Eskimos, but as far as possible they leave them to run by their own instinct. Upon the whole the Green-



Fig. 58. Dog whip, Angmagssalik.  
(National Museum).



landers as dog drivers are far superior to the Central Eskimos. I have seen men of most tribes between Back River and Fury and Hecla Strait in the north, and Churchill in the south, driving sledges; as a rule another person runs in front of the sledge here in order to urge the dogs to the work which they cannot be prevailed upon to do by means of an incessant use of the whip and a rain of shouts. As compared with this, the manner of driving of the Greenlanders is surprisingly quiet, but in return the dogs are keenly alive to every word spoken. Really first-rate sledge drivers are not even willing to carry on conversation with a passenger for fear of distracting the attention of the animals.

The driver sits with his legs over the right side of the sledge and with the whip lash trailing after him. If necessary, he is then able to jump off on the instant to clear the traces or to take hold of the upstanders and steer the sledge between stones and ice hummocks. On steep slopes he weighs the sledge down, standing on the last cross tree, the back part of the runners cutting into the snow and serving as a brake. Down a very steep slope the dogs run behind the sledge, where they back and thus check the pace. Not even cracks in the ice, up to about a metre in width, form obstacles; the sledge is pulled right up to the edge of the ice, the dogs leap and then pull the sledge across. If the sledge sticks in hummocky ice, and the dogs are unable to move it, the driver must gather the hindmost parts of all the traces in his hand and uttering an encouraging cry suddenly let go, this jerk frequently helping the dogs to start the sledge. After some hours' sledging the traces have as a rule become so entangled that the driver must stop and clear them. In the severest winter cold this is at best a very cold job, as it has to be done bare-handed; but sometimes he has also to use his teeth, and considering the treatment to which the traces are exposed on the part of the dogs, this by no means contributes towards making the work more enjoyable. In this manner it is possible, with good ice and no load, to cover a distance of up to 100 km a day, but as a rule, and especially on long journeys, the going is considerably slower, the distance covered rarely exceeding 10 km hourly. On smooth ice a West Greenland sledge can take a load of up to 400 kg, a Polar Eskimo sledge frequently takes much more. The heaviest load is placed a little behind the middle of the sledge.

**Skis** have been introduced into West Greenland, and on the southern part of the coast where there are no sledges and the fall of snow is more abundant, they have come to play a certain part. The Greenland type somewhat resembles the Norwegian Telemarkski, but has no strap at the in-step, only at the toe. Sometimes the underside is covered with sealskin, with the hair lying towards the back.

## HOME LIFE.

## MANUFACTURES.

**Division of Work.** Whereas the Central Eskimo tribes rarely spend more than a month or two in the same place, and consequently never feel bound to any special part of their country, it is different with the Greenlanders who even in their primitive state spent the whole of the winter, and frequently several winters running in the same place. No more heartfelt hymn to the native soil can be imagined than the simple legend of the hunter from Aluk, whose heart burst, when once again he saw the sun rising over the sea at his own dwelling place and its rays refracted in the icebergs on the horizon. To the Greenlander his dwelling place is more than the place where he happens to carry on his trade; it is his real home.

The men are naturally least attached to their homes. Their chief occupation is hunting and fishing of every kind and all that pertains thereto: kayaking, the building of snow huts etc. Their work at home is limited to the making and repairing of hunting implements and arms, *viz.* the working of wood, iron, bone, baleen, formerly also stone. It includes not merely the wood work necessary for the making of the actual hunting implements, but also the construction of the woodwork of the winter houses and the frames of the sledges, kayaks and umiaks. Whereas skin working otherwise comes within the sphere of the women, the making of seal thongs and sealing floats is man's work. Also the flensing of very large animals, particularly the walrus, which exceeds a woman's strength, rests with the men and in the Thule District, where the catch chiefly consists of large animals, the men always do the flensing. There the men also fetch water and ice for melting, which duties fall upon the women elsewhere in Greenland.

Broadly speaking, there are not many places in the world where the women are so spoilt as among the Polar Eskimos. The old conception that the Eskimo women are "slaves" and "beasts of burden" is fundamentally false. Of course there are brutal husbands in Greenland as elsewhere, and considering the lack of self control of the primitive mind, it is not to be wondered at that the anger of a husband at times may result in a sound drubbing for the wife; but I am convinced that if it were possible to collect statistical material on this point, it would turn out to show a larger percentage of henpecked husbands than in any civilized country. Most Eskimos have a deeply rooted respect for the tongues of their wives!

True helpfulness and good comradeship are, however, the qualities which most frequently characterize the relation of married couples, and, as contrasted with many primitive tribes, there are no restraining taboos which set up insurmountable barriers between the work of woman and the work of man. Particularly among the Polar Eskimos travelling frequently leads to a certain levelling of the spheres of activity. The men are not only able to

cook but, at a pinch, to make a pair of boots, and most women are able to drive a team as well as any man. From Angmagssalik cases are even known of women who have gone out in kayaks and carried on sealing.

If we turn to the work of women we find, as is quite natural, that to a far greater extent than that of the men it is bound up with the dwelling place, the home. As soon as a West Greenland hunter has towed a seal to the dwelling place, he considers his work finished and the wife comes down to the shore and pulls it up. Flensing (with the limitations mentioned above), cooking, and the tending of lamps, rest with the female sex; also the construction of the dwelling: the setting up of the tent and, apart from the wood work, the building of the winter house; further the dressing of skins and sinew thread, the covering of kayaks and umiaks, the sewing and repairing of clothes. Outside the home the work of woman is, however, limited to the rowing of umiaks when travelling, the gathering of fuel and berries and such fishing (caplin) as borders on gathering.

It is still the custom in Greenland that every household produces what it requires by way of local articles. The native artisans (smiths, coopers, carpenters etc.) who have had their training in Europe, are in the service of the Government, and only in exceptional cases do they work for their countrymen.

**Materials.** With primitive peoples new impulses and a growing development principally manifest themselves in new forms and also in altered methods, while, on the other hand, the materials are far more dependent on local circumstances, as long as there is no considerable import. It was a sound idea underlying the attempt made by Vidal de la Blache when representing cartographically certain "areas of environment" with the most important materials which these supply towards civilization, even if the experiment cannot be said to have been entirely successful. The animal kingdom, which to the Indian in the forests of Brasil means very little as a source of supply, beyond providing feathers for arrows and ornaments, is fundamentally the basis of existence as far as the Eskimo is concerned. It yields him not only his staple food, but also skins for clothing, tent and boat coverings, fur blankets for platforms and sledges, straps and thongs etc., sinews for thread, bone, ivory, antler and baleen for implements and blubber for fuel.

In comparison, the Greenlanders derive but little from the vegetable world. Of primary importance is of course the driftwood. Willow branches are now very rarely used for kayak ribs, while on the other hand heather and peat, to a great extent, are used for fuel. As a source of food the vegetable world is in point of quantity of practically no importance. In olden times the inorganic world in the first place supplied the Eskimos with different kinds of stone for blades of weapons and tools. Now the importance of stone is of course *nil*, as only soapstone for lamps, stone sinkers and bullet moulds have



maintained a certain importance. Mention should also be made of the coal beds in the West Greenland basalt area, from where the neighbouring inhabitants get an essential part of their fuel supply.

The connection with Denmark has meant a far greater revolution by way of material than by way of technology and forms. A large quantity of imported articles now constitute an integrating part of Greenland culture and are remodelled and worked there according to the needs of that country.

**Working of Hard Materials.** By these are understood here wood, bone, ivory, and as a kind of transition to the softer materials, also baleen. In ancient Greenland there was also a considerable working of stone (chalcedony, jasper, slate etc.) which was used for blades of weapons and implements; but with reference to the Greenland Stone Age, as well as the problem of the origin of the use of telluric and meteoric iron, the reader is referred to the chapter on archæology. On the other hand, the working of the soft soapstone for lamps and pots is, technologically, only a secondary form of wood working. Nowadays, the Greenlander never makes pots of stone and very rarely stone lamps.

The contents of the tool chest of the Greenlanders have increased greatly since the beginning of colonization, saws, planes,

files etc. now being among their most common implements. However, they still stick to their old types when it has not been possible to replace them directly by new forms. One of the most important of these is the bow drill, which to this day is used all over Greenland, and which, before saws came into use, also served for the splitting up of large pieces of wood and bone, one hole being laboriously bored beside the other. The bow drill consists of the actual drill, *viz.* an iron point inserted into a rounded, wooden shaft, a bow and a mouthpiece. The bow is made of wood, antler or the rib of a deer. The string is a sealskin thong, considerably longer than the distance between the tips of the bow, in order that it may be passed conveniently round the drill shaft. The mouth piece is made either of wood or the astragalus of a deer. When going to use the drill the worker passes the string round the

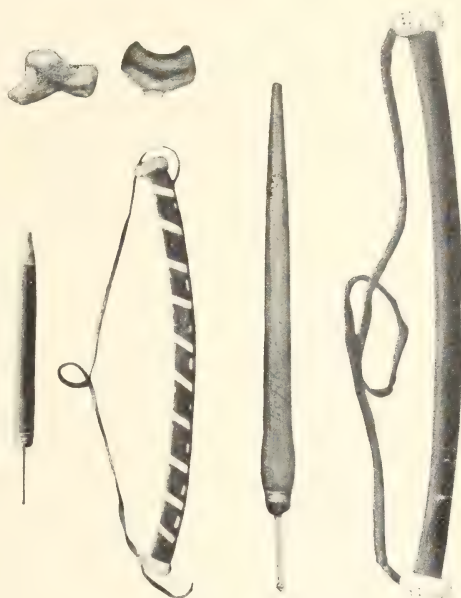


Fig. 59. Bow drills. Angmagssalik.  
(National Museum).

shaft, supports its upper part against the mouth piece, which he holds between his teeth, and then drills by pulling the bow from side to side with little jerks. Hand drills are rare in Greenland.

The Polar Eskimos have no other working knife than the ordinary man's knife, also used for hunting, whereas the Greenlanders otherwise use the ordinary crooked whittling knife, which has such a wide distribution, not only among the Eskimos, but also among the North American Indians and Siberian tribes. The blade, as is usual in Eskimo knives, is shorter and stronger than in those of the Indians, because the Eskimos more frequently work in bone and ivory. The blade may be bent or straightened out according to the requirements of the work. Some whittling knives have a very long haft of wood or antler. The end of this haft is supported against the right knee, while the worker holds the knife with the back of his hand upwards (as contrasted with the Indians) and performs half cutting, half scraping movements towards himself. A piece of thick skin (barbed seal) is used to protect the thumb, and formerly when the Greenlanders worked naked in their houses, they also used knee protectors made of wood or skin. Short-hafted knives are used, when long, even cuts are not required.

From of old the West Greenlanders have made use of the adze for heavier wood work. It is now also introduced at Angmagssalik, where curiously enough it was unknown at the beginning of colonization, although adze blades have been found in the district. Neither is the adze used by the Polar Eskimos, which may possibly be explained by the scarcity of wood in those parts. However, I have been told by reliable men of the tribe that it was used there in former times, being designated by a word which is different from the one now used for the axes imported from Europe. The occurrence of the real axe in prehistoric Greenland is still somewhat uncertain. There were two types of stone adzes in Greenland, one with a short blade inserted into a head lashed to the haft, and another with a long blade attached directly to the latter, and we still have two forms of iron adzes corresponding with these two types. The blade is generally in both cases an iron chisel, but it is either lashed on top of the haft or inserted into the bulbous upper end of the latter.

Specially adapted for bone working are the engraving tools, which have a very short and strong iron blade inserted into a haft made of antler.

Baleen is cut with a knife with a very thin blade, sometimes made of bone, after it has been soaked in water for a couple of days. It is very apt to split up in lamellæ, and in winter it must consequently often be greased with blubber.

It is no wonder that wood and bone working has attained a comparatively high degree of excellence in Greenland, where especially in former times the chief object was to turn the material to the best possible account. Sometimes the result is not beautiful, but then this is most frequently owing to the

insufficiency of the material. The Polar Eskimos particularly suffer from this—as a matter of fact partly geographically determined—lack of proportion in their implements, whereas the Angmagssalik Eskimos with their abundance of driftwood, are possessed of a surprising technical skill and



Fig. 60. Whittling knives.  
Egedesminde District.  
(National Museum).

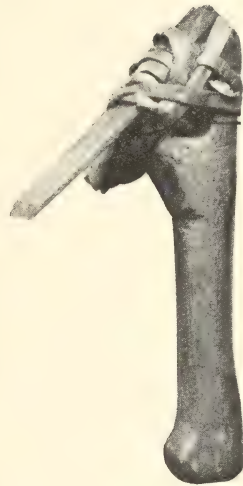


Fig. 61. Adze with iron blade.  
Egedesminde District.  
(National Museum).

artistic sense, and the West Greenlanders occupy an intermediary position between the two. Careful lashing, riveting, joining by sewing and scarfing were all well known methods in Greenland. Also a primitive form of mortising was known. Grooving, dovetailing and true mortising are, on the other hand, originally European, though now widely used methods, and the same applies to coopering which, however, has again passed out of use, simultaneously with the introduction of enamel ware.



While wood working essentially serves useful purposes, the technical skill of the Greenlander reaches its climax in the way of artistic finish, in bone and ivory working. Bone artifacts are sometimes decorated with a crude ornamentation, consisting of bored holes, engraved lines, or dots and circles, though in this respect the Greenlanders are far inferior to their Alaska kinsmen. On the other hand many combs, spoons, buckles, wings of harpoons etc. are given an ornamental shape. Frequently occurring terminations are two kinds of a characteristic divided decoration, representing the tail of a whale or the hind part of a seal, respectively. In some places along the west coast the prettiest buttons and buckles are made for kayak straps, formed in the shape of fish, seals, white whale, and other animals which they hunt; the toggle for the buckle of a mitten becomes a ptarmigan,



Fig. 62. Buttons for kayak strap.  
Egedesminde District.  
(National Museum).

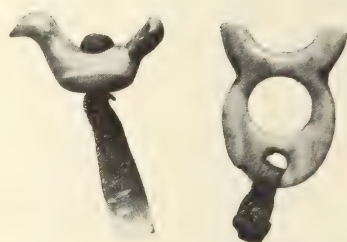


Fig. 63. Buckle for mittens.  
Egedesminde District  
(National Musum).

the haft of a sewing knife a trout, and a sea bird sits as a buckle on the hood strap at the back of a kayak jacket etc.

Old time wooden artifacts from the west coast are fitted out with bone mounting and inlaying, but in this respect the Angmagssalik Eskimos are far superior to all the other Greenlanders, representing upon the whole the culmination of Greenland art. Their eye shades are frequently covered with a perfect lace work of ivory mountings in various patterns; the wood work in water pails, throwing boards, and the like, is hardly to be distinguished between figures of men and women, seals, whales and mythical beings riveted on the surface, and yet this lavish ornamentation does not give an over-decorated effect.

**Seal Thongs** are used for harpoon and towing lines, sledge lashings, dog traces and a number of other purposes. The best thongs are obtained from the skins of young walruses, but they are more commonly made of the skins of barbed seals, especially those of the young ones; the skins of the old male seals cannot be used at all. In an emergency thongs can also be made of the skins of saddlebacks. *Babiche* (deerhide thong) like that used by certain Eskimo and Indian tribes is entirely unknown.

On the west coast and at Angmagssalik, the method of manufacturing

seal thongs is, in all essentials, the same. The man makes two circular cuts round the body of the seal, and then the woman, with her *ulo*, loosens the belt of skin and blubber and pulls it over the tail of the seal. She very carefully removes the blubber with her knife; the skin is scraped and put into urine, until the hairs are loosened, and afterwards it is scraped again. Then it is once more put into urine, and after it is dried, the man cuts the belt spirally into a long, thin thong. This is work which requires careful

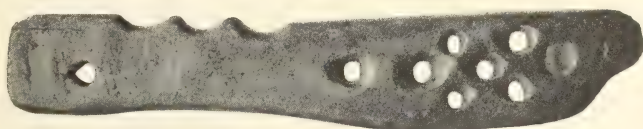


Fig. 64. Thong smoother. Angmagssalik. (National Museum).

attention as well as practice, for the thong must be the same width everywhere. The thong is then stretched as taut as possible between two heavy stones, so that the water oozes out, and the epidermis peels off. Even then, however, the thong is not quite ready. It must be trimmed along the edges, and as it is stiff and hard, it must be made smooth and supple. This is done



Fig. 65. Drying frame for thongs. Egedesminde District. (National Museum).

across the back of a knife or by means of a thong smoother, consisting of a piece of bone with holes of various sizes, through which the thongs are drawn.

The seal thongs of the West Greenlanders are considerably thinner than those of the Polar Eskimos. This is partly due to the fact that they are mainly used for sealing, together with the slender West Greenland harpoons, which are intended to be thrown rather far, whereas the others are more particularly to be used for walrus hunting and with harpoons which are only thrown a short distance. The Polar Eskimos never use urine for the dressing, but only water, and the thongs are never stretched during the drying process, but are pushed up in small bights on a stick and thus dried. According to their own statement, this method makes the thongs considerably stronger than the West Greenland ones.

Seal thongs require constant care, if they are to preserve their suppleness.

The harpoon line and the whip lash particularly must be dried carefully after being used; in West Greenland and the Angmagssalik District this is sometimes done on special, narrow drying frames.

Lashing naturally plays an immense part. Half-hitches and reef knots are common kinds of knots. Nets are made with sheet bends, which are also used for uniting two thongs of different thicknesses. Bowline knots are used in the lashing of sledges. When a seal thong is to be lengthened, it is done by sewing with sinew thread if it is to be used for sealing, while otherwise cut splices, or a cut splice and half hitch combined are made. Running nooses and plain slings are also widely used.

**Skin Dressing.** In most Greenland households we find that skins of

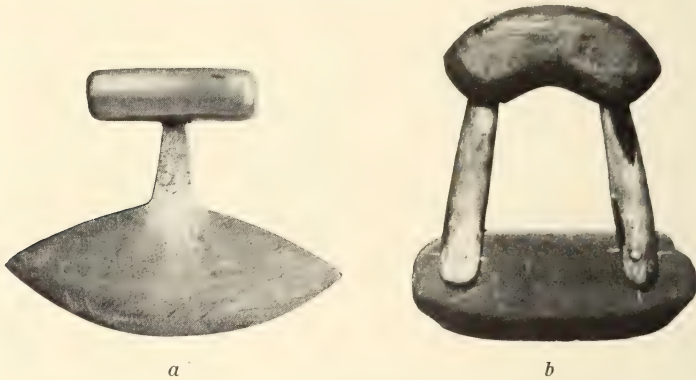


Fig 66. Women's knives. *a* from the Egedesminde District, *b* from Angmagssalik. (National Museum).

seals, dogs, reindeer and various water fowls are used. Formerly also the skins of bears and foxes were used, but they are now, as a rule, too expensive outside the Thule District. In former days salmon skins were sometimes used for clothes in West Greenland.

The Greenland women are expert skin dressers. The process must be considered a special kind of oil tanning, although, it is true, the skins have not to be supplied with additional fat or grease; on the contrary, in many cases a surplus of fat must first of all be removed. Apart from the purely mechanical process, consisting in the cleaning, stretching and softening of the skins, a very primitive chemical working takes place. In this respect there is, however, a considerable difference between the Thule District, on one side, and West and East Greenland on the other. In the former place the skins are dressed exclusively by means of hot water, whereas in the two other places they are put into stale urine. Nowhere in Greenland do we find traces of the tanning by means of fish roe employed by the Alaska Eskimos, nor of the treatment with brain substance and smudging which



from the North American Indians has spread to certain Eskimos on that continent.

The most indispensable of all implements, both in the skinning of the animals and the subsequent processes, is the woman's knife or *ulo*. The modern *ulo*-type is provided with a lanceolate blade (on somewhat older specimens anchor-shaped) with a tang on one long side. The handle is made of wood, antler or ivory. A Greenland woman grasps the handle so that the tang appears between the third and the fourth fingers, and the length of the tang is of the exact proportion to enable her, if necessary, to steady the blade with her forefinger, at the same time that she maintains her firm grip. In the Thule and Angmagssalik Districts there was, until recently, a woman's



Fig. 67. Skin scrapers, West Greenland. (National Museum).

knife of a more primitive shape, in which blade and handle were united by two short arms.

Further implements for skin dressing are variously shaped scrapers. Nowadays, however, scrapers are only of common occurrence in the Thule District, where they consist of an iron blade, shaped like a cylinder cut through lengthwise and lodged in a wooden handle. Otherwise scraping is generally done by means of a blunt woman's knife, and in West Greenland it is also sometimes done with the shell of a mussel, without any shaping, or with a disk of some crystalline rock, with very little shaping, the respective purpose of which is to remove the blubber and soften the skin. The woman takes hold of the scraper with the back of her hand upwards, as contrasted with the Central Eskimos of Hudson Bay, where the palm is turned upwards. On the other hand, the Greenlanders resemble the latter in that the scraping movement is performed away from the worker, whereas the subarctic Indians scrape in the opposite direction. The foundation while scraping consists of a scraping bench, a piece of rectangular, slightly concave whalebone, the back part of which rests on two quite low wooden legs. The Polar Eskimos use no scraping bench.

It would carry us too far to give a detailed description of all the different methods for the dressing of skins, all the more as they differ somewhat from one place to another. Quite briefly and without any striving after completeness, mention shall here be made of the most important methods, taken

partly from the Thule District and partly, as an example of dressing by means of urine, from the Egedesminde District.

A great number of skins, the more the farther north we get, are dressed with the hair on to serve as a protection against the cold, partly in the shape of garments partly for tent coverings, sleeping bags and the like. Bearskins are only scraped, stretched and dried; dogskins, on the other hand, must also be washed, rubbed and further scraped in order to soften them, and in order to attain a really handsome result the drying should take place in frost. Foxskins are cleaned and stretched in order to be dried. Deerskins which are to be used for platform and sledge rugs are merely dried without being stretched, but if they are to be used for clothes, they are made damp after being dried, rolled up and put aside for twelve hours, after which they are sprinkled over with fine gravel or, nowadays, with powdered chalk, and then scraped thin, rubbed and stretched by scraping. The Greenlanders, however, are hardly able to prepare skins so that they are as soft as the deerskins dressed by the Central Eskimos. Birdskins are drawn off whole and the fleshy side chewed to remove superfluous fat. After they have been left for an hour or so, the feathers are plucked off and the skin dried and stretched. On the southern part of the west coast urine was, at any rate in former times, used for the dressing of birdskins.

Sealskins with the hair on are first scraped and stretched, and then moistened, in the Thule District with water, in the Egedesminde District with urine (now they are, however, as a rule washed with soda and brown soap); finally, they are dried, rubbed and scraped once more. On the southern part of the west coast the skin is even soaked in urine before being stretched.

There are many different kinds of depilated skins. They are not principally meant for warmth, but to keep out the water. Therefore, they are used for boat covers, sea clothes etc. and can to a certain extent be said to be of greatest importance in the southern part of the country. In the Thule District the common depilated black sealskin is prepared by the hair of the damp skin being shaved off with a sharp *ulo*, and then the skin is stretched and dried. In West Greenland the hairs are loosened by soaking the skin in urine, after which they are easily removed. The skin is washed in salt water, stretched and dried, then once again moistened with urine, rolled up and put aside and finally rubbed again and scraped. Kayak skins are left in urine for a longer period than common waterproof skins and should not be stretched.

Sometimes not only is the hair removed, but also the black epidermis, by which process the skin assumes a whitish-yellowish colour. This is done by the Polar Eskimos in one of two ways: they either scald the skin, so that hair and epidermis are loosened, and then stretch it; the skin is rolled up with the fleshy side outwards, without removing the blubber; then, when the latter begins to get sour, hair and epidermis are loosened. Such skins are, *inter alia*, used for boot tops. On the southern part of the west coast

and at Angmagssalik the boots are covered with grainless skin. These skins are left to soak, until the epidermis loosens of its own accord; then they are soaked in urine for a few hours and scraped. Skins for soles are stretched out tightly during the drying process, and in a somewhat similar way skins are prepared for kayak mittens, but they are moistened with seal blood before being dried.

A special kind of depilated skins without epidermis are dried in frosty weather, by which process they assume a beautiful creamy colour, quite

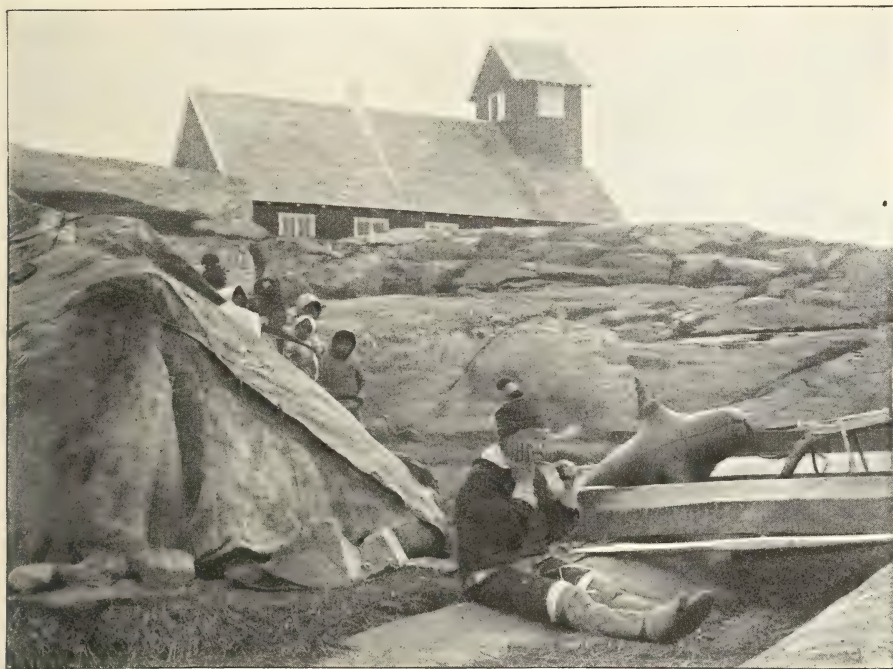


Fig. 68. West Greenland woman twisting sinew thread against her cheek.  
Egedesminde District. (Birket-Smith).

different from the other whitish-yellowish skins. The Polar Eskimos employ the same method as in the dressing of scalded skins; but after the former process they are stretched on the ice and hung up to be dried in frosty weather and out of the sun. The West Greenlanders use urine instead of boiling water; after being soaked in urine the skin is washed in warm, salt water, and then for two or three days left to soak in tepid water, which is changed now and again. Finally, it is dried in the frost.

The Greenlanders furthermore use several kinds of skins, the chief quality of which is that they are light and transparent, at the same time that they are water-proof. They are used for tent hangings, window panes, jackets for damp weather and, formerly, for umiak sails. The Polar Eskimos obtain translucent skins for tents by splitting the skins of walrus and seal.



The skins of walrus or barbed seal are split into three layers, those of fiord seal into two. Instead of split skins the skins of walrus penis or walrus gullet are used. Gullet skins are also known in West Greenland, but there, as at Angmagssalik, translucent skins are by preference made of seal guts. In the Egedesminde District gutskins are not dressed with urine, but left to soak in salt water for at least five days.

While dyed skins never occur among the Polar Eskimos, the West Greenlanders used to dye depilated skins red with the chewed bark of driftwood. Now they use European dyes, thus producing buff, red, blue or rather dark purple skins. More rarely skins are painted with oil paint.

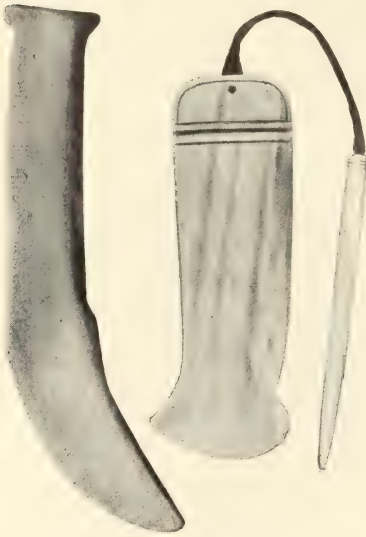


Fig. 69. Boot creasers,  
West Greenland.  
(National Museum).

The high level **Sewing** has reached is, like so many other phases of Eskimo culture, the result of geographical conditions, for well-sewn and good clothes are a necessity in the Arctic climate, while also the covering of skin boats requires great skill. Hence it is not to be wondered at that European sewing needles were among the articles in greatest demand, when foreign vessels began to visit the coasts. Until then the Greenlanders had to content themselves with the bones of birds or fishes and hare teeth. The thread consists of split sinews, by preference the dorsal sinews of reindeer, but sinews of seals and whales are also used, the latter for coarser work, such as the sewing of boat covers. Besides, thread is made of

seal gullets. In West Greenland the sinews are first dried and then split, whereas the Polar Eskimos split them while moist, which yields a round thread after drying. Sinew thread is the only material which lends itself to the sewing of skins, and it has the further advantage of swelling when it becomes wet, thus keeping the water out at the seams.

The Greenland method of sewing is different from the European one. A European woman places the thimble on her third finger, pushes the needle into the cloth with the same finger and pulls it through by means of her forefinger and thumb; during this process her palm is turned downwards. A Greenland seamstress, as in fact every Eskimo woman, places her sewing ring on her forefinger and, pulling the needle towards herself, takes hold of it from below with her palm turned upwards. This working method is possibly connected with the fact that it is adapted for sewing in skin, for

there is no doubt that a woman can pull the needle with greater strength in the Eskimo manner. All sewing is done from right to left.

Skins with the hair on are always sewed "over and over," and a some-

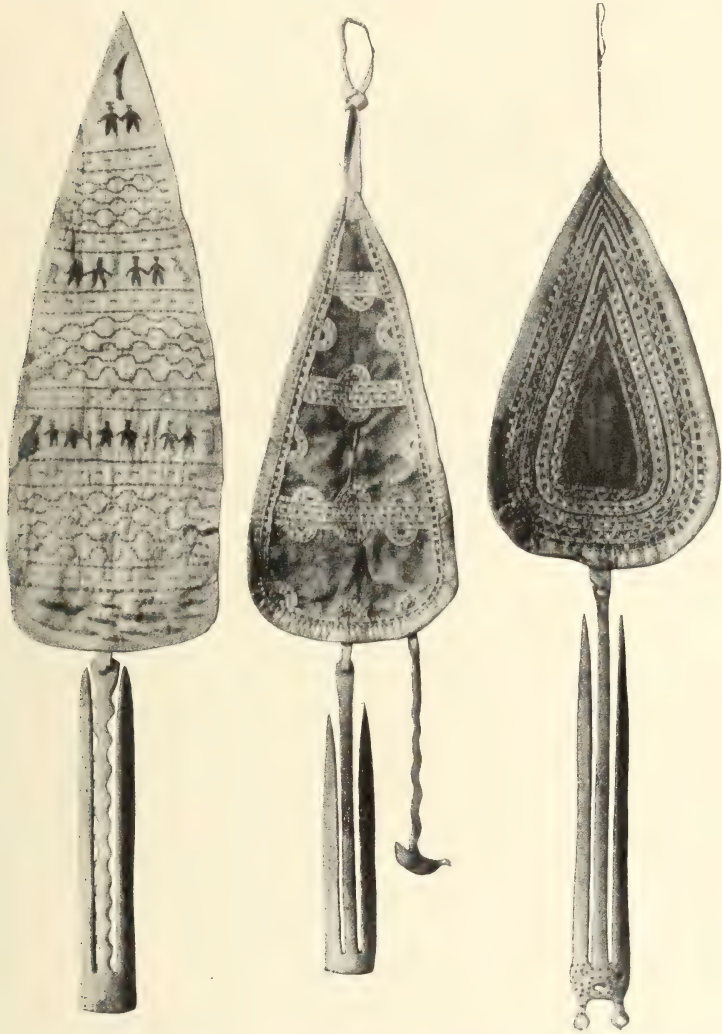


Fig. 70. Needle skins with *appliqué* work and thimble holders attached. Angmagssalik. (National Museum).

what similar manner of sewing is used for gutskins. Depilated skins, on the other hand, are sewed with running stitches, and when sewing boot soles, the seamstress takes very good care that the stitches only run halfway through the thickness of the skin, so as to make the seam still more water-proof. In order to make the sole fit the boot top, it is carefully creased at

toe and heel, and the creases are smoothed with the boot creaser, a piece of ivory or antler of the shape of a knife or a miniature boot.

In the same manner as the artistic field of the men was the working of ivory, that of the women is the skin-mosaic. In olden times the fur jackets of the West Greenlanders were sometimes embroidered with the whiskers of old reindeer bulls. Now this style of ornamentation has disappeared, but there is undoubtedly a connection between that and the Greenland skin-mosaic as well as with the quill work of the North American Indians. Among the Polar Eskimos there are only feeble attempts at skin-mosaic, which is carried to perfection, although in various directions, in West Greenland and at Angmagssalik. On the west coast it is essentially used for the decoration of the costume, partly as a further development of the variety of colours, which naturally occurs when employing varicoloured skin pieces, partly in borders which originally served to strengthen the edges of the skin, and partly in inserted strips of skin which emphasize and strengthen the seams. The access to European dyes have here given new impulses to skin-mosaic. Quite narrow strips of red, blue, green, yellow, black and white skin are, by means of a small sewing knife, cut into short strips or small squares, which with unerring taste and a pure delight in colours are joined to patterns with a surprisingly decorative effect. Particularly the sealskin trousers and long boots of the women are works of art, unwavering in style, but infinitely varied in details.

The Angmagssalik Eskimos have only quite recently begun to have access to as many colours as the West Greenlanders. Their skin-mosaic is therefore made in black and white, and rather bears the character of *appliqué* work. Straight and wavy lines, concentric circles, the figures of men, women and animals are used for the ornamentation of bags, needle skins etc. in exactly the same manner as the men use ivory figures on wooden artifacts. In its kind this decoration is as pleasing as the bright mosaic patterns of the West Greenlanders, and both stand pre-eminent in primitive ornamentation.

Greatly inferior in taste and workmanship to this national art are the floral designs carried out in coloured wool or silk, with which some West Greenland women now ornament their pocket handkerchiefs etc. With regard to crocheting, the level attained is higher, and knitting is used for making woollen sweaters, mittens and caps. In West Greenland the hairs of dogs and hares are sometimes spun on a primitive spindle, of a type which has been introduced from Europe and is widely different from the elegant spindles of the North American Indians. In conclusion the bead work of the large collars worn by young girls should also be mentioned. This branch of art is, as a matter of course, not national, but the designs seem to have been created in the country, perhaps partly under the influence of European lace.

**Coiled Basketry** is used for making mats for plates and similar things



which are sold to travellers. It was principally at the now abandoned Moravian missions that basketry flourished, and the early missionaries undoubtedly helped to further this form of national home industry. The technique, however, is beyond a doubt of old Eskimo origin, as we also find it in Alaska, in Labrador, and among the Central tribes.

#### MANNERS AND CUSTOMS.

**Daily Life.** In summer the hunters get up from the sleeping platform before two or three in the morning, in winter a few hours later. The great hunters and heroes of the legends are always extremely early risers. As soon as the hunter gets up, he goes out to have a look at the sea or ice, and to find out what are the weather and hunting conditions. If there is a possibility of going hunting he makes everything ready. Without taking anything but a cup of very hot coffee, he will start on hunting trips which may last all day. In the meantime the women undertake the selling of blubber, down, or whatever else they may have to dispose of, at the same time making their own purchases. "From all sides, they are seen to be making their way down the mountains in their characteristic posture: slightly bent forward and with crooked legs, their feet turned inwards, their knees giving at every step, which makes their walk at one time rocking and swaying. When they have handed in the products, they go to the store to buy all that the household needs, fishing hooks, twine and similar necessities for the hunt, not to forget tobacco and quids for the men (and perhaps snuff for themselves). To give an adequate description of the scene in a large Greenland store, particularly at a time when hunting and fishing are good, is hardly possible. The space in front of the counter is crammed with people, who in the general hubbub try to press forward to make their purchases or to get back to the door. The hum of whispering voices, which incessantly rises to boisterousness and then, at the *quos ego* of the trader again subsides to a hum, now and then interrupted by a roar of laughter, when the wit of the dwelling place cracks one of his jokes, when a pushing customer is severely snubbed, or an unhappy person drops his purchases, so that coffee, sugar, grits and tobacco is scattered over the not particularly clean floor. The purchases are generally extremely small, five Øre worth of coffee, three Øre worth of sugar, one Øre worth of grits (to mix with the coffee), eleven Øre worth of rice, seven Øre worth of brown sugar, three Øre worth of tobacco etc. Every single purchase is paid for at once, and change is given, until the whole sum is spent. Thus purchases to a total value of twenty-five Øre in all, may necessitate the passing of money across the counter up to ten times." (Grønland II, p. 172). Theremainder of the day the women spend in sewing, skin dressing etc., and towards evening when the men can be expected back, they prepare the chief meal of the day;

for until then the men have had nothing but their coffee in the morning and a pipe or a quid of tobacco in the course of the day.

The staple food of the Greenlanders is the meat of sea mammals—in West Greenland also deer meat—fish and, after the colonization, rice, oats, peas, biscuits and brown bread. Even vegetable food is supplied via the animal kingdom, the sour, half digested contents of the deer's stomach being considered a special delicacy. The Polar Eskimos also eat the half-digested clams from walrus' stomachs, which, when boiled, make a fairly palatable dish. It is well known that the Greenlanders do not avoid meat because it is more or less tainted; in fact, the taste of rotten walrus meat is somewhat like that of old, fat cheese. It should, however, be borne in mind that it is by no means all putrid meat that is considered edible. The Greenlanders distinguish sharply between what is edible and what is considered pernicious to health. Nevertheless, ptomain poisoning is not unknown.

Putrid meat is frequently eaten raw and frozen. According to the commonly adopted explanation, the correctness of which hardly seems disputable, the term "Eskimo" is derived from an Algonkian word meaning "eater of raw meat."<sup>1</sup> The subarctic Indians rarely eat raw meat, but it is only natural that the Eskimos try to avoid cooking in order to save fuel and blubber. A few things, for instance blubber and whaleskin, are by preference eaten raw and are, also to a European palate, more pleasing in this state. Nevertheless it is a main rule in Greenland that meat should be boiled. Seal meat is cooked in sea water. In order to make the soup richer, the meat is boiled with more blubber than is eaten, and only just enough to preserve the sweetness and juice; the soup is often mixed with blood. Fish and mussels are boiled hard.

Roast meat is very little eaten, the blubber lamp not being adapted for this kind of cooking. On hunting trips when the hunter has no implements for boiling meat, he will sometimes roast it in blubber, placing a slice of meat and blubber on a flat heated stone and covering it with wet moss and seaweed.

In summer the drying of meat and fish is a very common method of preservation; meat and large fish like halibut are cut into strips before being dried. Another method of preservation consists in putting eggs, berries etc. into blubber. Sometimes in West Greenland deer meat and trout are smoked over heather fires, but this method of preservation is not originally an Eskimo one.

The usual drink of the Greenlanders is water, which they all like to consume in great quantities and very cold; but tea and more particularly

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<sup>1</sup> The Wabanaki of Maine are said to use the word *eskimantsik*; according to my own observations the Maskegon Cree south of Hudson Bay use the form *eskimau*, plur. *eskimawok*.

coffee is now largely drunk. The import of European liquor is strictly and very effectively forbidden.

Early in the evening, about eight o'clock, the whole family retires to sleep. As long as the midnight sun reverses all notions of time, these common rules are, however, by no means strictly observed. Everybody rises and goes to sleep as it suits him. It is easily understood that the long, light period in summer and the long winter night, in connection with the huge hunting area, leads the Polar Eskimos to a less strict division into days and nights than obtains among the southern Greenlanders. When a West Greenland woman does not see her husband's kayak or sledge approaching the dwelling place in the evening, she is prepared for the worst, whereas in the Thule District the women never know when they are going to see their husbands back. Particularly in summer they frequently spend weeks in the open, seeking rest in caves and stone shelters. This custom leaves distinct traces on their economic conditions.

**Pastimes.** Greatly varying from season to season, at times even fluctuating between abundance and starvation, but in its inner course uniform and monotonous, this is the life of the Greenlanders. Now they naturally celebrate Sundays and the usual Christian festivals, but of anything resembling original Eskimo rites, only a single rudiment is retained on the west coast, *viz.* that the young people on Twelfth Night dress up and move about the dwelling places in masks and sometimes with huge phalli. The Angmagssalik Eskimos also use masks at a special game, which probably at one time had a religious background. Otherwise it is the arrival of guests in the winter, and the meeting of people from various dwelling places in summer, which are the original motives for feasts and entertainments. A necessary accompaniment of all entertainments is much food, nowadays also much coffee. In olden times people continued with drum dancing and chorus singing throughout the night, but the hollow sound of the drum has long since ceased to reverberate in the dwelling places of West Greenland, and even drums from Angmagssalik and Thule are hardly to be found outside ethnographical museums. The old style of dancing is now replaced by European dances, even though a few of those which originally seem to have been based upon the reels of Scottish whalers, are now adapted to the national taste.

The daily life of the Greenlanders is a continual course of physical training, and so it is not to be wondered at that the hunter when he comes back, instead of practising sports, likes to rest with his pipe, and to talk, or to while away his time with the Bible or the newspaper. On the hunting ground, particularly in spring when there is a pause in the hunt and before the commencement of the caplin fisheries, the young men rival each other in strength and agility. They wrestle, pull at hooks with arms and fingers; or they extend one or two strong seal thongs over which they hang, practising several kinds of



"rolling" movements. Further, playing at ball is a favourite pastime. As early as 1586 John Davis' crew played football with the Eskimos in what is now the Godthaab District, and their eagerness has not cooled off in the years which have passed since then.

Another old form of pastime is the ring-and-pin game or *ajagaq* (North Greenland *ajangaq*). The instrument is made of the skull or shoulder blade of a hare, the skull of a cormorant, the pelvis or penis bone of a seal etc. with holes drilled in them, and the game consists in catching this object on a bone bodkin, attached to it by a thong. Cats' cradles are common among the Polar Eskimos. In West Greenland, on the other hand, it is now by no means all who know these string figures, and those who do so, rarely know more than one or two. Nowadays the Greenlanders often play cards.

**Children.** All Eskimos are extremely fond of children, and neither in Greenland nor elsewhere have I seen an Eskimo strike a child, and hardly scold it. Beyond their schools, which the children are on an average very eager to attend, they receive very little systematic education, but still they are wonderfully obedient.

The children suckle their mothers for a very long period, even after they have begun to partake of other food, which is not strange in view of the exclusive meat diet. In games the children gradually learn the accomplishments of the grown-up. The little girls play at mothers, and the boys at hunters; the former dress skins and cook food for their dolls, the latter go out in kayaks and throw harpoons. The first "kayak" is a mere outline of stones, placed on the ground, and in this the future hunter sits, anticipating the joys and excitement of years to come. When the weather is fine, the children spend nearly all day in the open air, running in and out of the houses of the dwelling place. As in more civilized countries, there are, however, also arranged games, with or without appertaining children's rhymes. Some of these, like hide-and-seek, an equivalent to the English "Oranges and Lemons," and others, are almost identical with European games. A few implements which in former times have evidently been put to more serious use, have now degenerated into toys: this applies to sling, bola and bow. The crossbow which is also used as a toy, shows early European influence. Tops, "mills," buzzes, spindle buzzes and bull roarers are rather common. From Europe dates the primitive mechanical toy, "two eating birds", which is known on the west coast as well as on the east coast.

As soon as a boy catches his first seal, his childhood is at an end, and life lies before him, for good or evil. We have seen how it is adapted to the natural conditions of the country, and how this, to a certain degree, has caused development to stand still. But we have also seen that, when fresh influences are brought to bear, a new development may take place. It is not the idea that the Greenland of the future should be a slavish imitation of Denmark with a Europeanized quasi-civilization; but that it should amalgamate

the best elements of two widely different forms of culture, one of which is superior in *most*, but surely not in *all* respects. Conditions in Greenland give the promising outlook that the Eskimos still have a future before them in the Arctic, and that an alliance between European and Eskimo civilization may prove to bear fruit. And this is the great task lying before young Greenland—before those who are still children.

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# INTELLECTUAL CULTURE OF THE GREENLANDERS

BY

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When speaking of Greenlanders we mean all the native inhabitants of the coast stretches of Greenland. The name thus comprises the Arctic Greenlanders round Cape York and the East Greenlanders round Angmagssalik and Scoresby Sound, who have been in touch with white men for only a few decades, as well as the population of the whole of West Greenland. The latter part of the country has for more than two hundred years been the seat of Danish colonization and a Danish mission, which have brought their influence to bear upon the natives, so that they have long ago become converted to the Christian faith and in many respects have undergone great changes, both as regards material culture and social organization. Conditions being so different the question naturally presents itself whether it is at all possible to give a universally valid description of the intellectual life of the Greenlanders.

It is a matter of course that such foreign elements as have been introduced into, and found a place in the life of the Greenlanders, must be included in a description of their manner of life and thinking, and this will be done in the various parts of this work. But to the keenly observant mind it is equally evident that these foreign elements are now in the main only a thicker or thinner layer, covering the primitive Eskimo national psyche, and even where the new ideas have been made personal property, as must be said to be the case with the change of religion, they have been inculcated into the original mode of thinking and have modified it. Thus it may be maintained, with full justice, that the original foundation of the intellectual life of the Greenlanders is still so firmly lodged that it is not necessary to bore deeply before it appears. In spite of all foreign influence and intermixture of foreign blood, the Greenlanders are still an *Eskimo* tribe. Therefore, the chief aim of a description of their intellectual culture must be to set it forth in its primitive form, as it is known from the last colonized parts and from the oldest literature, and as it still survives in the more or less hidden recesses of the minds of the Greenlanders.



The tough strength, which the original intellectual culture of the Greenlanders has thus proved to possess, is a typical characteristic of the common Eskimo culture. The Greenland tribes constitute the most easterly arm of the large body of the Eskimo race. Although for a period of great, but indefinable length they have been cut off from the other members of their race, their culture, both in its entirety and in details, shows a close connection, indeed more than that, a homogeneity with the western Eskimos, so that a description of the Greenlanders in fact becomes a description of the Eskimo race generally. And if this homogeneity appears from a transversal section over the whole of the area inhabited by the Eskimos, this is no less the case with a longitudinal section down through the ages. It is true that there are differences, and one of the objects of recent researches has been to bring out these, but they are of such a kind as strongly to emphasize the homogeneity. This unchangeability throughout thousands of years naturally has some bearing upon the adaptability of Eskimo culture to homogeneous natural conditions, but on the other hand it evidently also points towards a psychic peculiarity of the Eskimos, as an original or derived characteristic. From this springs the ineradicable loyalty to tradition which, wherever their routes of migration have crossed other civilizations, has led to the victory of the Eskimo civilization, or at any rate to an almost complete imperviousness to impressions. Therefore, we cannot wonder at finding this characteristic in the minds of the Greenlanders, as a stubborn though quiet resistance against everything in the white man's culture which would bring about a disruption of the basis of their whole life.

To the same degree as the Greenlandic culture has maintained itself as an Eskimo culture, it has also kept its peculiar *primitive* character unchanged. The word *primitive* is used deliberately, although it is evident that the Eskimo culture has a long history and development behind it. This must naturally be illustrated in greater detail in the various chapters; here we will content ourselves with a rough characterization of the expression of primitivity which, as it were, is the leading principle of the whole of the intellectual life of the Eskimos.

It is characteristic of the Eskimo mind that it holds its ideas and groups of ideas as juxtaposed factors. It is unable to join, to comprise and to combine them into a unity. We may express it in the manner that the Greenlanders receive impressions and express themselves in an appositive, not in a compositive manner. This is best shown by means of examples. When a Greenlanders wants to express his artistic sense it is almost exclusively done through the medium of ornamentation, and ornamentation is the juxtaposition of a sequence of *motifs*, each making a separate unity, which can be taken out link by link, while the connection between the *motifs* is of rather an external nature. Exactly the same characteristics recur in the Greenland legends. As a rule they contain a number of loosely joined *motifs*, centring

in one person, and each *motif* making a finished whole. It is like a chain which can be continued *ad infinitum*, and it is often broken off in rather a casual manner. The form familiar to our stage of culture, which aims at weaving together and combining *motifs* into a whole, while gradually shaping itself towards a climax and tending to an explosive conclusion, *viz.* the dramatic construction, has no place in the intellectual life of the Eskimos. This also applies to the Eskimo conception of the universe and, not least, to their language.

We have here indicated the main lines to be followed in the description of the intellectual life of the Greenlanders, which will be given in the following. It is Eskimo in character, connected and homogeneous with Eskimo culture all over Arctic America and Northeast Asia, and thus of a strangely primitive nature.

### THE GREENLANDIC LANGUAGE.

As suggested in the introduction, the Greenlandic language is to be regarded as a "province" of the common language spoken by all Eskimos from West to East. This has been known for a long time, and has further been confirmed by the appearance of descriptions of the different tribes, with more or less comprehensive lists of words and word forms. The unity was easily discerned in spite of the differences in the recording, due to the different nationalities and qualifications of those undertaking the work. However, the Fifth Thule Expedition, under the leadership of Dr. Knud Rasmussen, supplies a decisive, practical proof of the correctness of this view. Together with several Greenland Eskimos he visited practically all the tribes from Greenland to the east side of Bering Strait, and after a very short period of familiarization they were everywhere able to understand and speak with the natives there.

If the language of the Eskimo peoples generally constitutes a unity, this with all the greater truth can be said to apply to the Greenland dialect. On the other hand, this does not mean that the latter is quite homogeneous. In the different parts of Greenland, indeed, from settlement to settlement there are linguistic peculiarities, chiefly of a *phonetic* and *lexical* nature. Sometimes they may be due to casual causes, emphasized by the scattered habitation and the isolation of the individual dwelling places. Thus, in the case of one locality it may be demonstrated that the peculiarly lisping pronunciation of a whole settlement was due to a defect of speech in a single man, a couple of generations back; also ritualistic considerations have played a great part in the choice of words, as certain common words, which were also the names of deceased persons from the same dwelling place, became *taboo*, and thus could be used no longer, but were replaced by other synonymous or derived terms, a change which comes very naturally in the Eskimo lan-

guage. Still, there are differences in the dialects, which are so widely distributed and so thorough as to suggest actual differences of tribes. As examples may be mentioned a distinct line of division in southern Greenland between a so-called U-dialect and an I-dialect, in which the u-sound is consistently replaced by i. An attempt at a rough linguistic orientation of the population of Greenland will show us the following main groups: The Polar Eskimos round Cape York, the Upernivik tribes, the North Greenlanders round Disko Bay, the Central Greenlanders between Holsteinsborg and Godthaab, the South Greenlanders and, finally, the East Greenlanders round Angmagssalik, but they all understand each other immediately, and their dialects are constructed according to the same laws.

During the long period of the Danish colonization of Greenland, and the resulting intimate life of Danes and Greenlanders, the native language has often been made the subject of study and description. As early as in Olearius' (1656) and Bartholin's (1675) works we find information relating to the language of Greenland, but not until the time of Hans Egede was it subjected to systematic treatment. With the assistance of his sons he wrote down and arranged his observations, as well as he could, in accordance with the Latin system, the only one which was familiar to him. In his "Historie von Grönland" Cranz relates of the terror which seized the illiterate Moravian Brethren when they were confronted with Hans Egede's grammatical notes, and the elaborate Latin terms employed. Poul Egede, the son of Hans Egede, published in 1750 the first Greenland "dictionarium" and in 1760 the first grammar. From his childhood he was familiar with the spoken language, and throughout his work he employed the assistance of native Greenlanders. The result he attained was very imposing, although he, too, depended entirely upon the Latin grammar and *a priori* was inclined to recognize the forms of the latter in the Greenlandic language, even when by his knowledge of actual conditions he was forced to modify the system, and he clearly realized that the building up of the language was principally done by the tacking on of affixes. The same applies to Otto Fabricius, whose grammar of 1791 and dictionary of 1804 extends and improves the system without breaking with it, as for instance when he retains the Latin tense declension. New ground, however, was broken by Samuel Kleinschmidt with his grammar of 1851, when he made an attempt at explaining the Greenlandic language on the strength of its own laws. He was born in Greenland, the son of a Moravian missionary, and after having studied for some years in Europe he returned to his native country as a missionary, and then entered the service of the Danish government as a teacher at the catechists' school in Godthaab. He elaborated an orthography which was introduced into the Greenland schools and church and which is very serviceable, although, unfortunately, he arrived at his results by speculating rather than by listening. His dictionary appeared in 1871 and is arranged quite methodically in accordance with



the acknowledged stems. In 1888 Chr. Rasmussen published a grammar, based upon the work of Kleinschmidt, and in 1893, in collaboration with K. Kjer, a Greenlandic—Danish Dictionary, with a supplement to the dictionary of Kleinschmidt. During recent years William Thalbitzer has undertaken a first-hand investigation of the phonetics of the language: "A phonetical Study of the Eskimo Language based upon Observations" (Med. o. G. 1904); in 1911 the same author published a grammar in "Bureau of American Ethnology (Bull. 40, Part 2) and in 1921 "The Angmagssalik Eskimo, Language and Folklore." A new edition of the Greenlandic dictionary was compiled with assistance from many sides by the present author in 1926, followed by an English edition in 1927.

In the introduction, attention has been called to the mental peculiarity of the Greenlanders, *viz.* the appositive as opposed to the compositive manner of thinking, which means that they possess their ideas as juxtaposed elements, without being able to sum them up, and we identified this in their art as ornamentation, and in their legend as juxtaposed situations without any attempt at joining events into an actual plot.

This peculiarity is a very marked feature of the Greenlandic language. It appears from the fact that the language is essentially a juxtaposition of words, each independent and expressing a finished context. What we understand by sentences is a concatenation of ideas, joined together by verbs, the object of which is above all to combine and keep together the fixed elements, and thus give the impression of something gliding and flowing. This, however, is unknown to the Greenlanders, who content themselves with the noun which in compensation contains all the elements required for supplying an aggregate complete meaning.

Therefore, the character of the Greenlandic language is quite different from that of our own group of languages. For example, there are, strictly speaking, no classes of words or declensions, and the attention must be exclusively directed towards the words and the manner in which they are created or rather built up. A Greenlandic word is constructed upon the following elements:

Base or stem, affixes and endings or final affixes.

The *base* or stem is generally quite short, consisting of one or two syllables, and it denotes that which to the Greenlanders is the main idea of the word. The stem may frequently be a word which can be used without any addition, for instance, *kiak*, heat; *isse*, cold; *inuk*, human being. Sometimes, however, the stem does not give sense as an independent word and, therefore, cannot be used without an affix, but its meaning as a word is presupposed, and in many cases it has passed out of use in Greenland, for instance, *tatigá*, he relies upon him, where the stem is *tatik* or *tate*, a word which is used among other Eskimo peoples in the sense of a pillar, but has disappeared from the spoken language. The stem, however, very

frequently cannot be used independently in its composite form, for instance, *ani*, turning outwards; *pu*, swelling upwards. There are a few stems which are so neutral in sense as only to attain a meaning by means of the affixes. It is also justifiable to speak of stems in a second degree, *viz.* extensions and modifications of primary stems proper with a derived meaning. Thus, from the above-mentioned *pu*—swelling, secondary stems occur, as for instance *pue*, abscess and *puak*, lung.

The stems are regularly extended by means of *affixes* which add something to the meaning of the word by indicating its dimension, circumstances, treatment etc. There are affixes which can be tacked on to any stem, others which favour certain word groups, or even individual words. But within certain rather wide limits, it is possible to tack on one affix after another to a stem.

Stems, independent or extended by affixes, are at last completed by *final affixes*, the latter expressing whether the stem is singular, dualis or pluralis, as well as its relation to another link in the composite word group, or to the whole meaning. Among these endings we mention some which correspond with our prepositions and are used to indicate place, direction, road, distance, mode or comparison. The person is expressed by other endings which in sense more or less correspond with our possessive pronouns. While what is usually termed the third person has a special character, which will be mentioned later on, the first and the second persons occur with definite endings, and in addition a reflexive person, referring to the subject.

The following will serve as an example of how a Greenlandic word is constructed by means of the links mentioned:

*eqaluk*, means a salmon, being a secondary stem of *eqa* which is not in use. *eqalug-ssuaq*, with the affix *-ssuaq*, meaning large, but among the Greenlanders “the large salmon” is—the shark.

*eqalugssuar-niar-*, fishing shark.

*eqalugssuarniar-iartor-*, going out to fish shark.

*eqalugssuarniariartor-qu-*, bidding to go out to fish shark.

*eqalugssuarniariartorqu-ssaq*, bidden to go out to fish shark.

*eqalugssuarniariartorqussa-u-*, has been bidden to go out to fish shark.

*eqalugssuarniariartorqussau-galuar-*, has, properly speaking, been bidden to .....

*eqalugssuarniariartorqussaugalua-qau-*, has, properly speaking, been forcibly bidden to .....

*eqalugssuarniariartorqussaugaluaqau-gut*, we have, properly speaking, been forcibly bidden to go out fishing shark.

Whereas the former additions have been affixed, the last is an ending, indicating the first person plural.

The word given as an example must be rendered in translation as a verb in *modus indicativus*, but judging by its form it is decidedly a noun. As a matter of fact, it holds good of all Greenlandic words that they are mainly

of the nature of nouns, with the closely defined complete meaning of the noun. A connected group of words thus becomes a series of juxtaposed complete forms. *tusarpunga*, I hear, is according to its form to be regarded as a noun, "my hearing," *tusarpara*, I hear it, strictly means the complete "that heard by me," Still there is in the language a tendency to get beyond the noun and to express a meaning which indicates the flowing, gliding and uniting character of the verb. We find an affix *po*, *pa*, and *pe*, which clearly indicates the verbal character of the word, and it is possible to make use of two personal endings, one of which indicates the subject and the other the object. It might perhaps be said that the language had already become set before the verbal elements were completed.

*pulâr-fi-gi-niar-pa-vti-git*, we intend to pay you a visit, is built up of the stem *pulâr*—to be a guest—*fik*, place,—*gâ*, have—to, *-niar*—intends to, the verbal characteristic—*pa* and the persons first person plural and second person singular.

The common third person can, in a number of cases, be dispensed with, which further emphasizes the nounal character of the language.

*tusarpoq*, he hears, and *tusarput*, they hear, is strictly a common nounal form in singular and plural, the meaning of which is "hearing." The absolute noun *qaja-ra*, my kayak, in its form corresponds with *ornig-pa-ra*, strictly, my visited, but the latter means, as indicated by the verbal characteristic *-pa*, "I visited him."

Where several words are parallelised with the object of expressing a context, endings to indicate relation may be used, *viz.* in, to, with, through etc. but besides there is a kind of case which expresses connection or dependency and so, appropriately, has been termed *casus relativus*. This case is formed by means of an ending in which a *p* occurs more or less distinctly, this *p* expressing that the word thus characterized corresponds with a personal ending in the principal word of the word group, as for instance the owner in case of proprietorship. As *igdlua* means his house, *piniartup igdlua* is the explanation of the personal ending "his" 3: the sealer's. It may also correspond with the subject of a transitive verb. *pissarâ* means "he got it (the seal)." The form *piniartup* indicates, by the affixed *p*, that here the owner or rather the acting person "the sealer" appears, and the word *puisse* in *casus absolutivus* expresses the seal which is the object of the act. The sentence *puisse piniartup pissarâ* thus means "the sealer got the seal" literally translated: the seal the sealers his got. This *casus relativus*, curiously enough, also occurs in verbal forms, indicating then that the latter are subordinate as determinations of time, cause, and condition, in relation to the principal verb, so that they must be given as subordinate propositions—*autdlarama* (*casus relativus*) *anordlilerpoq*, when I departed, it began to blow.

In explanation of what has been said above, a few sentences of a Greenland legend will be given:



niviarsiarqat little girls	mardluk two	méránguanik with small children
amârdlutik carrying in the amaut	narssákut across a plain	ingerdlagamik when they walked
iterssuarmut into a large hole	nákarput they fell down	sunauvfa fancy
tássanītoq he who was there	inupilorujugssuaq a gigantic troll	táussumarssûp the great fellow (relative)
méránguit the little children	mardluk two	erngīnaq immediately
nerivai he ate them	niviarsiarqatdlo and the little girls	oqarfigalugit saying to them
aqagumut until to morrow	torqorsimagatdlásagine that he would keep them	

*viz.* When two little girls carrying two babies in their amauts (*i. e.* fur coats with a hood for carrying children) were walking across a plain, they fell into a large hole. Fancy, in that hole there lived a huge troll; the monster immediately ate the two babies, saying to the little girls that he would keep them for the following day.

As it will appear from the examples quoted above, the Greenlandic language is very rich in vowels. Thalbitzer characterizes it as "a succession of voiced sounds and voiceless pauses." The Greenlanders speak rather slowly, as the words are not complete unities, but are built up while speaking. They only move their lips slightly (Thalbitzer). The most characteristic sound of their language is a uvular, which above is expressed by *q*, a kind of snoring sound, in the formation of which the uvula plays a part.

In its primitive form the language of the Greenlanders naturally had the exact scope necessitated by their material and intellectual requirements. It has been characterized as a Stone Age language, and it cannot be denied that there is a certain uncouth roughness about it. It is a language dealing with real facts, with things and experiences as seen and conceived. Therefore, there are a number of different expressions for related objects, without any attempt at establishing any unity between them. The Greenlanders use different and differently derived words for ice according to its kind: sea ice, glacier ice etc. and they indicate the relationship of human beings by a

number of terms, the minutest shades of relationship being expressed without any attempt at generalization. Nevertheless, the language as developed in the legends, not least through their "repetitions," has attained a certain classic form, revealing in glimpses a vista extending far beyond that which has been expressed by the very words. And by the constant training in singing, which made part of the original life of the Greenlanders, and where it was not merely a question of verses learnt by heart, but such as were composed on the spur of the moment—conforming, it is true, to traditional standards, but still bearing the impress of a personal mood—the language constantly offered living possibilities of development, and from its very life the language derived a capability of extension which came to benefit the subsequent development.

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When the Greenlanders came into touch with the culture of the white man, they received such an overwhelming amount of new impressions and experiences as naturally influenced their language. Some sort of relation must already have existed between the old Norse settlers and the Eskimos, and whatever its scope the question naturally presents itself, whether in the Greenlandic language there are any traces of this first meeting. There are in the vocabulary a number of words which bear a surprising likeness to northern ones, and already at an early period attention was directed towards such words as *sava*, sheep, *nisa*, porpoise, *kuáneq*, angelika, *kúna*, woman, although the recurrence of some of them among American Eskimo tribes, who never had any communication with Scandinavians, makes the identification of them very improbable. It has frequently been set forth as a hypothesis that the name which the southwestern tribes in Greenland used for themselves, *viz. kalátdlit* (sing. *kaláleq*) is identical with the "Skrælings," the name used in the sagas for the Eskimos, some (Kleinschmidt) considering the latter, and others (Thalbitzer) the former form the primary one, but as to this nothing can be said for certain. In the sagas mention is made of the life and fights of the Eskimos with the Norsemen, which seems to indicate a historical background. But the details must, at any rate, be used cautiously, as the same *motifs* partly occur elsewhere in the legends relating to the fights of the Eskimo tribes with other Eskimos or Indians. Nor is it necessary to go as far back as to the old Norse colonization to presume traces of linguistic influence. For a long time before Hans Egede arrived in Greenland, the west coast of Greenland was regularly navigated by Dutch, German and English vessels, the crews of which traded with the Eskimos, so that the necessity arose for words, which both parties were able to understand. On his voyage to Greenland Hans Egede engaged the services of an interpreter who understood both languages, from a trading vessel, which he encountered in Davis Strait.

It was, however, not until after the time of Hans Egede, when the colonization of Greenland became a permanent feature, that it came to exercise any actual influence on the language, some phases of which influence we are going to show in the following.

The simplest manner in which to express their experiences was, naturally, for the natives to take over the words together with the things themselves. In this manner some *loan-words* have come into existence which have now become part of the Greenland vocabulary, transformed by the phonetics of that language. We mention words like *púluke*, pig (from Norwegian *purka*); *súkut* sugar; *tupa*, tobacco; *sukulôq*, chewing tobacco (Danish: *Skraa*); *palase*, clergyman (Danish: *Præst*); *vine*, wine (Danish: *Vin*). Thus also the names *Pavia* for Paul, *Pele* for Peter. In the religious language *Gúte*, God (Danish: *Gud*) was retained. The number of such words has gradually increased, thus, for instance, the Danish names of coins, *viz. krone* and *øre*. Nevertheless it is surprising how few loan-words have been retained in the spoken language, and one almost gets the impression that the language actually guards against them, as if in fear of being disrupted by them. The first missionaries, uncertain as they were about the foreign language, were afraid of translating the Danish words. Thus Poul Egede, when speaking upon religious matters, uses the Danish equivalents for sin, Holy Ghost and others, but the temperament of the Greenlanders naturally reacted against this, and Fabricius discontinued this habit, replacing the words in question by translations.

The Greenlanders, wherever possible, preferred to *identify* the new things with those which they themselves knew or owned. Their own fairly large craft was the woman's boat, *umiaq*; therefore, a vessel was called *umiarssuaq*, a large *umiaq*, a boat *umiatsiaq* because it rather resembled an *umiaq*, a long boat *umiatsiarssuaq*. Ship's biscuits were called "grass" by the southern tribes, presumably because they knew they were made of grain; coal was called "large live coal" and matches "fires." Gunpowder becomes "soot" and sewing thread "artificial sinew thread." The clergyman "speaks" and the congregation "listens," and so the sermon and the church service is described in these plain terms.

Another way of adopting the foreign ideas was by *comparison*. At the beginning of the systematic trade with Greenland the value was simply identified with the commodity, for instance, a *daler* (very nearly an English florin) was called a barrel, *nápartaq*, because a barrel of blubber was paid with that price, a *seksskilling* (about a penny) was called a young saddleback, *agdlagtôq*. The round coins were supposed to resemble the moon, and so they were called "moon likenesses", *aningaussat*. This was a very elastic method. Large ground oats exactly resemble fish-roe, and are thus called *suaussat*; brown sugar resembles sand, *sioraussat*; the bowl of a tobacco pipe bears a comical resemblance to a stomach, also because it consumes its contents, and so it



is called *aqajarússaq*; the flat lighters made of wood resemble an *umiaq* and so are called *umiaussat*. The affix-*ussaq*, as may already have been gathered, denotes a likeness.

Further, words were adopted according to their *characteristics*. Brown beans are narrow, *amitsukujút*, rifles have many fluted grooves, *qôrortút*, percussion caps explode with a crack, *qártartut*, flannel has a woollen surface, *merqulualik* and rings are meant to be put on the fingers, *agssangmiut*. The highest authority of the country is called the one obeyed, the master, *nálagaq*, and if "great" is added, *nálagarssuaq*, it is sufficient to denote the very highest authorities.

But the most common manner of linguistically adopting the new objects and ideas is by giving them a name, which expresses their *use*. What can they be used for? It is an old Eskimo custom of nomenclature which here comes in useful. Transcriptions have always been in great request in the Greenlandic language. When a word became *taboo*, it had to be replaced by a transcription. Within living memory the use of the word *umiaq* was suddenly discontinued in East Greenland because a man who had borne this name had died, and the names of deceased persons become *taboo*. In place of that the woman's boat was called *angatdlat*, means of travelling, *viz.* vessel. Consequently, this manner of transcription became quite natural in the case of imported goods, tools and ideas. Soap, *qaqorsaut*, is that which makes white; matches (in North Greenland) *ikilsisil*, that with which a fire is lit. A gun, *autdlait*, is an implement to shoot with, and a button, *átat*, a means of fastening. This peculiarity of the Greenlandic language lends to it an elasticity which has made it possible for it to adopt practically all sorts of foreign elements, without in the least altering its character.

In some cases it has naturally happened that Greenlandic words have come into use without being justified from a linguistic point of view. This, for instance, applies to the word *anersâq*, spirit, which, it is true, is derived from a genuine Greenlandic stem, but does not occur as a word. Breath is called *anerneq*, but the word *anersâq* has been adapted into Greenlandic in the same manner as also the Danish word for spirit "Aand" is an adaptation of the word breath "Aande."

Although the language of the Greenlanders has thus made a brave resistance against the encroaching "white" civilization, it is a matter of course that the influence of the latter has been great and has made itself felt in many ways within the linguistic field.

It is naturally sometimes difficult to prove how much is directly due to foreign influence and what is due to natural development, accelerated by influence from without. Thus, by comparing the modern language with the oldest specimens of the Greenlandic language which were written down at the beginning of the colonization period, we shall find that comparatively many words, which at that time were known and used, have now passed

entirely out of use. This, for instance, applies to a number of words bearing upon traditions of their religions and cults, which have disappeared together with these traditions. The word *angákoq* which signifies the typical Eskimo conjurer is now only a reminiscence. At present the word is used in certain localities to indicate a basin. The Eskimo *ivngerpoq*, used about the singing which accompanied the beating of drums, is now obsolete, while one word, *niarna*, which means "his son" and which constantly occurs in the oldest Bible translation has now entirely disappeared. Also from a grammatical point of view a distinct development is to be traced. The old dualis forms are now greatly restricted in use and only occur in a few localities, indeed, even in the use of the reflexive person there is a steadily increasing uncertainty.

We have already mentioned examples of words in which a change of meaning has taken place. Many words, the application of which was originally more general, have been restricted to one closely defined meaning, while *vice versa*, in other cases an extension of the meaning has taken place. Here the introduction of Christianity has played an extremely large part. Instruction in the catechism, church-going, and translations of the Bible, have gradually imparted their contents to the Greenland vocabulary. A word like *ajorpoq*, it is no good, has attained a special ethical sense, being used about the wicked, sin, and *ánagpoq*, escapes a danger, is now used to denote the Christian idea of salvation. Words of subordinate importance like *tugsiarpoq* have been revived in the sense "sings hymns," presumably in order to avoid the old cultic terms for song. On the other hand, comprehensive words like *ivdler-nartoq*, that which one appreciates greatly, have been restricted to a specially religious meaning, "holy." Also, the modern forms of society which have been introduced into Greenland have reconstructed and revalued Greenlandic words and created an entirely new terminology, which unfortunately enforces upon the Greenlanders loan-words which possess no reality to them.

To this should be added the modification of the strictly Greenlandic tone of the language, the *style*, which has been going on unconsciously. The translators and adaptors were principally Europeans, and however sincere their endeavour not to violate the native language in its primitive form, the task they had set themselves exceeded their powers. From the point of view of form, everything, it is true, might be as it should be, but the fact of its being a foreign world of ideas undoubtedly left a strong impression, not merely on the selection of words, but also on the grouping of them. The limited knowledge of the language which the authors had, greatly hampered their choice of words and forms. A number of affixes, which are untranslatable, but lend an effect of "mood" to the word were entirely passed over. The language became stiff and narrow, quite different from the living, pliable spoken tongue. Through translations of a religious, pedagogical and literary nature, this new linguistic form came to exercise a certain influence on the population. Indeed, the written language, near settlements and similar

centres of more advanced civilization, and even the every-day language, were subject to this influence; the Greenlanders, who were able to express their thoughts in speech and writing, speaking and writing their language like the Europeans.

The importance of the old handed-down traditional legends and songs in the course of the whole of this development cannot be overrated. When they were written down for literary purposes, which was not infrequently the case, the difference between the written and the oral form is glaring. But first and foremost they lived and were narrated in the homes, and through them the popular language remained alive and expressive as it had been from time immemorial. It is from this source that the revival is to be expected.

### LITERATURE.

The literature of Greenland is intimately connected with the development of the language under the civilizing influence of the Danish colonization. Though limited in contents and scope, it still became of importance to the people, and in spite of its absolute dependence on the imported culture it is gradually acquiring a national character.

For the *missionary* Hans Egede naturally only one object existed, *viz.* to instruct the Greenlanders in Christianity, and however great his appreciation of the religious values of life, he only had one way of communicating them to the Greenlanders, and that was by actual school teaching. His method of christianizing the natives was to teach them the articles of faith, or at any rate a compendium of them. It could be done by word of mouth, but it could not be done to any large extent, until the converts were able to adopt it through reading. Therefore, it was quite natural that the first book published in Greenlandic should be a small primer with short texts, probably compiled by Hans Egede and printed in Copenhagen in 1739. The next book to be printed was a kind of instruction in Christian knowledge, the chief part of which, as was the custom of the times, was taken up by the *ordo salutis* and Luther's catechism. These first text books became the precursors of a number of similar works, which were compiled by succeeding missionaries, *viz.* Poul Egede, 1756, Thorhallesen, 1777, Otto Fabricius, 1818 etc. with contents which were altered according to the demands of the times and with an increasingly surer touch from a linguistic point of view.

In a way these books were the preliminaries of the translation of the Bible which is the chief aim of every mission. Poul Egede began to send out the gospels in 1744. He was only a boy when he arrived in Greenland with his parents, and as boys will, he learned the language of the Greenlanders while playing with his native friends. After having studied in Denmark for several years he returned to Greenland as a missionary; he stayed there for some time, and the remainder of his long life he devoted to



the teaching of future missionaries and to studies relating to the Greenlandic language. In 1766 his translation of the New Testament appeared. It was prepared in collaboration with a native woman, and in spite of all difficulties and the somewhat clumsy manner of expressing the thoughts and ideas, so foreign to the native mind, and in spite of many loan-words this translation is an excellent piece of work, the basis of all subsequent translations.

Otto Fabricius, the successor of Poul Egede in his capacity as a teacher of Greenlandic, was hardly so intimately acquainted with the language, but he was a greater scholar and had received more systematic training. He retranslated the New Testament in 1799 (a third and revised edition was undertaken in 1827 by N. G. Wolf), removing the superfluous loan-words and polishing off the inequalities of the language. At the same time he began a translation of the Old Testament, but he had only got as far as the Exodus, when he died in 1822.

The translation of the Old Testament came into existence, bit by bit. The work of Fabricius was continued by N. G. Wolf and after him by the missionary P. Kragh, who in the years 1822 to 1836 translated and supervised the printing of one part of the Old Testament after the other. Although important parts were still lacking, the Greenlanders might now be said to be in possession of the Bible in their own language.

The Moravian Brethren who in 1733 had taken up missionary work in Greenland and had their own mission stations on the southern part of the west coast for a long time used the translation of the Bible, which had been published by the Danish Mission. But with the harmony of the four gospels (1778) and the New Testament, published by the British Bible Society in 1822, they began an independent literary activity, which was probably based upon the Danish translations, but nevertheless had a character of its own, not least because their sphere of work was more narrowly circumscribed than that of the Danish mission, which had to take into consideration the dialects spoken along the whole of the coast line. In the years round the middle of the 19th century when the Danish Mission, as it were, had come to a standstill, at least from the point of view of literature, the Moravian Brethren took the lead; in 1851 and 1862 they brought out a renewed translation of the Old Testament, and it was one of their circle, Samuel Kleinschmidt, who in various ways broke new ground in the field of Greenlandic literature.

We have already mentioned Kleinschmidt as the compiler of a grammar and a dictionary. But this was only part of his comprehensive work on behalf of the language and literature of Greenland, in which, throughout his long life, he took such a lively interest. He had his own small printing press, from which, in succession, his numerous translations and other works were sent out. His chief work was beyond a doubt the new translation of the Bible, undertaken and published in parts at various times; certain of the

historical writings were translated by Chr. Rasmussen and a few parts of the New Testament by H. J. Jørgensen, both, however, following the principles of Kleinschmidt and retaining his style. Finally, in 1900, the first complete translation of the Bible was published, and apart from a slight revision of the New Testament in 1912 by Chr. Rasmussen and the present author, it is this translation which is now used.

So much has been said of the translations of the Bible because the language used in it has exercised, and in the future will continue to exercise an illimitable influence on the popular language of Greenland, as also in other countries where it has been possible to follow the working of this influence. This applies to the scope of meaning of the words, to the combinations of words, and to the tone of the language or the style generally. In the preceding chapter we have enumerated a number of examples to this effect. While leaving out large untilled areas of the linguistic field of Greenland, a kind of standard language has come into existence through the translation of the Bible, which day by day is gaining ground at the expense of the popular language.

A contributory cause is the influence exercised by the schools of Greenland. As they developed, it became necessary to supply material in the form of text books, which were translated or composed in Greenland and conformed with the advanced language which had been created. Further details of this will be given in a following chapter.

According as the native population became proficient in reading through the schools, a craving for books arose which could not be satisfied by the Bible and the text books. At an early period there circulated from dwelling place to dwelling place manuscript translations of Danish and foreign literature. They were experiments and sometimes of a very curious nature, as for instance a translation of Wieland's "Oberon." More to the point were the translations of short stories, undertaken in 1838 and 1839, by K. Kjer and P. Kragh respectively. But it is curious to notice how soon national subjects came to be introduced. With these should be classed the "Evening Talks" of Hans Egede, written by the trader Morck and published in 1837, after the pedagogical dialogue manner of Kampe and an account of the life and work of Hans Egede, which was published in 1857. In the same year the old description of the visit of the Greenlander Pôq to Denmark was published, and in the years 1859—63 four volumes of "Greenlandic Legends" appeared with translations into Danish.

This period, after the middle of the 19th century, became generally speaking an epoch in the cultural development of the Greenlanders, centring round the names of Kleinschmidt and Rink. The former has already been mentioned on several occasions; the latter was a scientist, who had traversed Greenland for scientific purposes, but who about that period entered the service of the Royal Greenland Trading Company, with the express ob-

ject of helping the Greenlanders and furthering their development. In this connection it should be noted that he took care to set up a serviceable printing press, and here, besides the books already mentioned, a periodical which appeared at regular intervals, *atuagagdliutit* (*i. e.* reading) was printed. The first volume of this appeared in 1861, and since then a similar volume consisting of twelve monthly instalments has been published every year by native editors. The first of these editors, who kept up the work for many years, was the head catechist Rasmus Berthelsen, and he was succeeded by the printer Lars Møller, who died a few years ago. This periodical now includes a very considerable number of volumes of very mixed contents. In it a good many novels have been published, all translated from the Danish and of a widely different nature, as for instance, Robinson Crusoe and Kipling's "Captains Courageous". Further, through this periodical, the Greenlanders have been informed of the events of the outer world, both in war and peace, of discoveries and scientific progress, interspersed with the most unimportant trivialities. A number of Eskimo legends have also appeared, being retold in rather a detailed manner, and upon the whole it has been a connecting link between the various parts of Greenland, containing accounts of sealing, and facts relating to the population and, not least, the weather, which apparently greatly interests writers and readers alike. By its independence of the language of the schools, both in form and contents, this periodical has been able to indulge in a greater linguistic freedom, thus coming closer to the popular, spoken language, while at the same time greatly helping the Greenlanders to express their thoughts in a manner conformable to a certain standard. From the very beginning it has contained drawings by native artists, by which means the illustrations have obtained a naive, but always very individual character. Now, these drawings have been replaced by an ordinary cliché material. In quite recent times a special periodical has been started for North Greenland *avangnâmioq* (*i. e.* the North Greenlander), and in addition there are a few small religious papers.

It was also Rink who started a movement towards obtaining self-government for the Greenlanders. Regulations for these "boards of guardians" were issued in 1863, and the Greenlanders were informed of their activity by *nalunaerutit*, (*viz.* communications); these mark the beginning of an effort to develop the language so as to make it fit to express the ideas of a social and political organization, which was entirely foreign to the old social life of Greenland. In spite of all awkwardness there is, in this respect, a distinct advance in the way in which the Greenlanders are able to speak and write about these subjects. A steadily increasing number of laws and statutes and, not least, a more and more general discussion of public matters in the periodical, has already left a distinct impress on the language of the people.

In the literature which grew up on Greenlandic soil, under the influence of the cultural development, a place was also found for poetry, or at any



rate metrical writings. In consideration of the place occupied by singing in the original life of the Eskimos, who were in the habit of expressing all emotions which passed beyond everyday life to the accompaniment of drums, it was to be expected that poetry would come to play a certain part in their intellectual life. Here, however, the influence of the missionaries from the very beginning decidedly became a restricting one, as they did all in their power to exterminate the native habit of singing, which was bound up with heathen worship and was part of the cult, and in this they were successful. The native manner of singing gradually became a thing of the past, but instead of that the European manner was introduced, first and foremost the singing of hymns. Hans Egede had already translated Danish hymns into Greenlandic, at the same time retaining the accustomed European tone. The language was here subjected to rythmical accentuation in the manner of Danish or German words, however badly this agreed with its many unstressed syllables. The Greenlanders accepted the hymns, learnt the tunes and sang on in the new manner. In the course of time many hymns were translated, and the Greenlanders now have their own hymn book in many editions, as to the details of which the reader is referred to the chapter on the "Church of Greenland." In this connection suffice it to say that several of the Greenlanders were gradually able to follow the lines laid down before them, and that there are many hymns which were composed and set to music by natives. One of the oldest and a great favourite among them is a Christmas carol *Gúterpul*, composed and set to music by Rasmus Berthelsen. In the latest edition of the hymn book (1907) the names of a number of native psalmists occur.

But poetic production in Greenland was not limited to religious songs. Thus K. Kjer translated Hans Andersen's "The Dying Child," and in 1832 he further published a selection of Danish patriotic and convivial songs. But the native songs in their new forms and with the imported tunes, which the Greenlanders quickly learned, were also making their way into the homes and the summer camps, and there gave an added impulse to the demand for literary expression. The German missionary Spindler composed many national songs in Greenlandic with popular German tunes, and also several Danes made contributions of a similar kind. In 1907 a Greenlandic book of songs appeared, a number of which had been composed and set to music by natives, and since that time this book has been extended on several occasions. A good deal of the old national heritage rings through these songs. Here are the lullabies or "petting" songs for the children and here the gay mocking tone from the old satirizing songs; there the love of the native country, its fiords, mountains, sea and national life, expressed in a beautiful, and frequently, in spite of all awkwardness, a very moving manner. This book of songs is now part of the property of almost every household in Greenland.

During later years energetic efforts have been made towards providing an actual literature in Greenlandic. Hans Andersen's fairy tales have been translated by Ostermann. A Greenland literary society, under the auspices of Nyeboe and Knud Rasmussen, have translated and printed a number of treatises with a view to popular education. We mention a few works which will probably come to play a part in the future development of the people, *viz.* a utopian novel by Matthias Storch, "The Dream," which exhorts the Greenlanders to work for the future of their country and people, and the works of the famous Arctic explorer Knud Rasmussen, who was born in Greenland and is intimately familiar with the language and spirit of the Greenlanders, and who in the descriptions of his travels, both in language and manner of thinking, draws upon the national life of the people. In these endeavours there is a freshness, which augurs well for a revival.

#### THE COMPLEX OF IDEAS OF THE GREENLANDERS.

The complex of ideas which fill the mind of the Greenlander and reveal his conception of and attitude to Life and his surroundings, spring from more than one source.

The national psyche of the Greenlander is principally and pronouncedly *realistic*. Brought up in overpowering, inclement natural conditions, and face to face with a precarious and dangerous occupation the Greenlander is armed with a rapid, cool, and accurate power of observation. His whole existence depends upon the degree of accuracy with which he is able to estimate conditions on land and sea, wind and weather, animals and their habits, man as an assisting or checking agency, and, first and foremost, his own capability. There is in all this a security and also a limitation, which are bound up with each other. In a manner it is not easy to make the Greenlander rise above the sphere with which he is familiar and in which he feels secure. Everything foreign presents a threatening and hostile aspect to him. But within his limitations that which he is able to do is simply unique. He can find his way where no marks are visible. He estimates time with astounding accuracy, not merely by the position of the sun, which is not always there, but by the changes of the tide. The stars tell him of the progress of the dark season. His knowledge is complete of the lives of the animals to be captured, of their migrations or the times of their appearance or disappearance, the routes chosen by them on land and on the ice, or upon and below the surface of the sea, and so also is his knowledge of every detail of their anatomy. This is partly due to inherited gifts and partly to constant training. The mother plays with her baby boy, when he is barely able to sit upright in her lap, by moving his arms up and down, the left and the right one alternately, as the sealer paddles his kayak. As soon as the boy is able to crawl, he finds a board, and with that as a kayak, and a stick as a paddle,

he now paddles in play across the pebbles of the beach. A sensible father presents his son with his first diminutive kayak when he is about five years of age, and teaches him the first principles of its use. Soon he is able to go out alone to catch fish with a jig, but he is already on the look-out after his first seal and his sealer's honour. Together with the other children of the dwelling-place he has in sport imitated the movements of the animals, the attacked seal, whale, or bear, the leaping reindeer, and many more features from real life than the non-Eskimo spectator is able to follow. With his bow and arrows he has practised on the small birds visiting his home during the summer. The day when he shoots his first snow bunting is a red-letter day in his life, and on that day his parents entertain the inhabitants of the whole dwelling place. As a matter of course he borrows his father's gun as soon as he is barely able to lift it, and he shoots at guillemot and ring-plover along the shore. Everything is directed towards the one aim: to qualify him for the life and occupations natural to the Greenlander. His dealings with man are characterized by the same limitation, but also by the same certainty of touch. The religious respect with which the social system is maintained within the narrow Greenland community, the inviolable rules for the relation between the sexes, between parents and children, between the members of the same dwelling place, and the distribution of the catch which is fixed in all details, all contributes to make him secure and certain of his foothold in his relation to the world surrounding him. This relation is based on actual facts, and so it is not to be wondered at that the aim of his existence seems to be utterly materialistic. As a matter of fact, the satisfaction of the barest primitive needs takes all his time and taxes all his energy, and superficially it might appear as if his whole life were taken up with it.

But an equally important source of the groups of ideas of the Greenlander is *tradition*. Here there is no possibility for observation nor the restraining power of personal experience. It is an inheritance from time immemorial, handed down from generation to generation. No one asks for the whence and why of tradition. To the mind of the Greenlander it is as certain and real as his own experience. Under this category come the legendary figures and descriptions, the rules of *taboo* associated with life, and birth, with hunting and travelling. Here, too, belong the social rules mentioned above, and everything that bears upon the religious life and the observances of the cult. But one must by no means think that the ordinary Greenlander attaches any importance to reconciling the contrasts, which not infrequently spring up between the reality observed and inherited tradition. How frequently investigators by their questions have tried to establish a unity within the Greenlander's range of ideas, a logical consistency, and how numerous are the errors which spring from this proceeding. The Greenlander has no difficulty in keeping in his mind even considerable contradictions and contrasts. They do not disturb him. He firmly believes in tradition; it is embedded in his



mind so that nothing can shake it. And furthermore, it is for him a door opening to a reality greater and richer than everyday life.

Finally, it should be borne in mind that behind this feeling of security, this apparent balance and occupation with material things, the innermost mind of every Greenlander quickly and nervously reacts upon even quite slight influences. This is, in some measure, to be explained by their very conditions of life. Outside the narrow sphere which is familiar to them and where they feel secure, there is a foreign and hostile world, consisting of land and sea, where sinister influences are at work. The dangers attaching to the occupation of the sealer, to the actual fact of living within the arctic regions, to the isolation, and the long periods of darkness, of storm and hunger, all this greatly taxes the minds of the Greenlanders. Add to this a nervous disposition, caused by the fact that for thousands of years their tribe has been cut off from the admixture of fresh blood, by a habit of intermarriage, which no rules of *taboo*, however great their number, has been able to circumvent, and which produces general degeneration. At any rate the Greenlanders, whatever the reason, seem an easy prey to various kinds of mental derangement. This generally manifests itself in the rapid interchange of periods of depression and hilarity, frequently taking the form of hysterics. It is curious to notice that the most terrible of the sufferings described in the popular legends is to be frightened to death. It is also periods of depression which explain many of the murders committed. We are told that the members of a dwelling place perceive how the inclination to kill gains on such a man. This being so, it is easily to be understood why the Greenlanders, of all people, are so apt to go into ecstasies, an aptitude which explains one phase of their religious life. But the same mental characteristics which make them so susceptible to influence, are also manifested in their buoyancy, and their readiness to abandon themselves to joy and festivity, qualities which, as it were, form the stepping stones to the artistic gift and conception, which so decidedly make part of the mentality of the Greenlanders. So very little is required in order to make the whole dwelling place lose itself in an exuberant, all-absorbing festive joy and exultation.

These three factors: observation, tradition and a vivid, impressionable imagination, are then the main sources of the complex of ideas of the Greenlanders.

For our knowledge of the intellectual culture and life of the Greenlanders before the colonization we are indebted to the first missionaries and traders. Hans Egede describes it in full in his "Perlustration" (1729) and "Relation" (1738), continued by his sons the clergyman, Poul Egede, and the trader, Niels Egede (continuation 1741 and 1744). In his "Historie von Grönland" (1765) David Cranz, the historian of the Moravian Brethren in Greenland, gives an account of the Greenlanders, and his narratives are based upon these descriptions with special information supplied by the Ger-

man missionaries. In 1771 the clergyman Glahn published his commentaries to this work, with independent observations, and very valuable material is found in "Grönlandske Relationer" by the trader Lars Dalager (published in 1915).

While the Greenland traditions were still a living factor, H. Rink collected a number of Eskimo fairy tales and legends ("Eskimoiske Eventyr og Sagn" I—II, 1866—71) from the west coast. Of the greatest interest is the knowledge gained of the East Greenland tribe, an exhaustive first-hand description of which was given by Lieut. (now Captain) G. Holm, who further, together with J. Petersen, published some legends and tales (Med. o. G. XXXIX, 1914). Professor Thalbitzer has published a number of works, of which should be mentioned: "A Phonetical Study of the Eskimo Language" (Med. o. G. XXXI, 1904), "Eskimoiske Digte fra Østgrønland" (1920), "Eskimoernes kultiske Guddomme" (1926) as well as investigations from East Greenland (Med. o. G. XXXIX, 1914, and XL, 1923.) To Birket-Smith we are indebted for a description of the Egedesminde District (Med. o. G. LXVI, 1924), and finally Knud Rasmussen has contributed largely to our knowledge of this phase of Eskimo culture by his invaluable works "Myter og Sagn" from different localities of Greenland I—III (1921—24).

#### CONCEPTION OF THE UNIVERSE.

The *nuna* (i. e. land) of the Greenlander is strictly his dwelling place and its most immediate surroundings. These he knows thoroughly, from the extreme *Skærgaard* where he pursues the Greenland seal, when it migrates in flocks, to the very head of the fiord, where he pitches his tent during the summer months when the rivers are teeming with salmon; indeed, he has traversed several miles of the interior to the places visited by the reindeer. Neither is, or rather was it in the olden days, when there was alike inclination and possibility for travelling—and travelling is in the blood of the Greenlanders—short stretches which were traversed to the north or south of the dwelling place, and with which he was familiar. Right from the southern parts of the country, indeed even from the east coast, long hunting and trading journeys might be undertaken by means of women's boats as far as Disko Bay, where baleen was exchanged for soapstone. As evidence of the accuracy with which the Greenlanders observed and remembered their country may be mentioned some map sketches carved in wood, which the East Greenlanders made for the information of the Danish explorer G. Holm (fig. 1).

But beyond what they themselves could traverse lay the huge interior, the infinite coast stretches, and the boundless sea. It appears from the legends that the Greenlanders had a vague memory that the country could be circumnavigated, and tradition at any rate gave certain supplements. On the

other side of the sea lay, according to tradition, the country *akilineq* (i. e. the country beyond the sea), presumably a survival from the old haunts of the tribes, and this legendary land, like also the mystic inland, gave full scope to their imagination.

The *under world* is of a more unearthly character, according to the ideas of the Greenlanders. All that is good comes from the depths of the sea, and so it is natural that the under world should be a good place to be in. On the other hand, the upper world is cold and dangerous. There the Man of the Moon is master, and the auroræ boreales are dead children playing at ball.

Within the rocks of the beach is the world of the fire people (*ingnerssuit*). The open space is like a house, the roof of which rests on wooden props, and it is the task of the *angakoqs* to see that these props do not decay, for then the world collapses. A comprehensive and complete picture we can, as already mentioned, by no means expect to find.

The Greenlanders call themselves by the common Eskimo name *inuit*; they are "the humans." The tribes belonging in the southern part of West Greenland curiously enough call themselves by a special name, *kalâtdlit*, which seems to be a very old tribal name and perhaps has given rise to the name used by the old Norsemen about the Eskimos, "Skrælings." Like other Eskimos the Greenlanders through tradition have had knowledge of *qavdlunât* (those coming from the south) and they asso-



a

b

Fig. 1. Maps carved in wood.

(a from Holm coll., b from Greenland Administration coll.)

ciated this name with Europeans, at the same time explaining them, somewhat contemptuously, as bastards of an Eskimo woman and a dog, who went out to sea in a boat sole (cf. p. 257). Another survival of a foreign people is the legendary *tornit* (sing. *tuneq*), viz. inland dwellers of superhuman dimensions. It has been thought that the Greenlanders by *tornit* were thinking of Red Indians, whom they undoubtedly met before their immigration into Greenland, but the investigations carried on by the last Thule-Expedition with regard to the Canadian Eskimos, seem beyond a doubt to point in the direction of *tornit* being a strange and hostile Eskimo tribe. How difficult it is to settle problems of this kind appears *inter alia* from the fact that several details relating to accounts of fights with *tornit* have passed into the narratives of *qavdlunâtsiait*, the old Norse settlers in Greenland, who are called "a



kind of Europeans," and these narratives would then have a not very remote historical background. Far more remote are the memories which form the basis of the narratives of the inland peoples, *erqigdlit*, the louse people, and *igaligdlit*, the cooking pot people, even though these words remind us of the names given to the Indian tribes by the Alaska Eskimos. The former are represented as half dog, half human being, which conception is evidently transferred from the above-mentioned *qavdlunât*. The latter, the cooking pot people, carry on their backs pots which have grown into them, but this idea is undoubtedly due to false ethymology (*iga* is in Greenlandic pot). All of these and many other hostile and sinister beings belong to the interior. There the dwarf people live, and beings with weapons which kill by merely pointing at someone, as well as curious half-human beings, some divided lengthwise and others with their eyes placed vertically. Here we are dealing with perfectly fantastic ideas. But also the sea has its marvels. It is dangerous to meet the giant boats or the giant kayaks, *qajarissat*, wooden canoes or barges, and the fire-people, *ingnerssuiit*, who live along the beach, move about at sea looking for seal.

Animals naturally play a great part in the conceptions of the Greenlanders. Not merely because of the use to which they can be put, but the Greenlanders have a countless number of legends in which animals appear. Some are fables and fairy tales which are also known elsewhere. But in others animals are described as living together with human beings, in a manner which is regarded as irregular, it is true, but which nevertheless follows ordinary human rules of life. Thus, there are stories of women or men who marry animals, of people who in the interior come across houses inhabited by animals and are their guests, strangely enough without knowing for some time that they are not humans. We have here a curious instance of the lack of coherence in the ideas of the Greenlanders. In the same tale the fox and the ptarmigan are made to appear in a perfectly human manner and then, without any intermediary stage, in their capacities as animals. It is the ordinary animal world of Greenland which is represented by these ideas, but together with these a number of animals occur, which may be survivals, in the same manner as their names are those used by the tribes of America. There are both wolf and wolverine, although in the guise of perfectly fantastic monstrosities. And there are mere fictitious beings, the *kilivfak*,<sup>1</sup> the animal with the iron tail, the huge worm, and the mighty bear of the sea.

In connection with the "inland" should be mentioned one more kind of dreadful being, the nature of which is rather peculiar, *viz.* *qivitut*, ordinary humans who in anger or offence have left their fellows and betaken themselves to the great solitude of the interior. Such things have actually happened and are a curious example of the mental characteristics of the

<sup>1</sup> With the western Eskimos the word is used for a mammoth, found in the earth.

Greenlanders, and the manner in which revenge is taken. But according to the popular belief, certain supernatural gifts are ascribed to such fugitives, who are supposed to feel attracted by the abode of man, and principally that of their own families. Those who have been drowned in kayaks, but whose bodies have not been found, are frequently regarded as *qivitut*. There are, as a matter of fact, some have who tried to fly to the mountains and have returned in time, before they were killed by cold or hunger, and the bodies of others have been found in caves.

*Tupilait* are sinister beings made by wicked people out of all sorts of curious objects, and then imbued with life by charms and sent out in order to kill and to hurt. They play a great part in the imagination of the Greenlanders.

#### RELIGIOUS IDEAS.

The figures hitherto mentioned, which make part of the world of the Greenlanders, although they are partly outside the sphere of the dwelling place, are to their minds corporeal, but frequently of a contorted corporality, visible, but possessed of a certain power to hide or to appear in a different guise, and independent, at any rate within the sphere where they belong. We are now going to describe a number of ideas which we call religious, because in the manner in which the Greenlanders regard them, and in their relation to them, there are more or less pronounced religious elements. These beings are in themselves incorporeal and thus invisible, but it is not to be expected that in their manner of thinking or speaking of them the Greenlanders should escape describing them with a corporality which at times approaches the drastic. They are also dependent, because they are always bound up with something definite, and yet, in the narratives, they are able to act in an independent manner. But in spite of all clumsiness of thought or expression there can be no doubt as to the place occupied by them among the conceptions of the Greenlanders. They are, as it were, the representatives of the power inherent in the objects. An attempt has been made to find among the Greenlanders a comprehensive expression for "the Power," as it is supposed to have been found among other people at a similar stage of civilization. This is impossible. The Greenlanders—and this he has in all probability in common with most people at that stage—does not demand continuity, totality, or unity, within the range of his ideas. Without any sense of disruption he is able to contain in his mind contradictory ideas and complexes of ideas, and any attempt at reducing his religious conceptions to such a unity is bound to fail. Everywhere he imagines the life and the power with which certain things are imbued, as represented by independent beings.

The name most commonly used about these is the word signifying human beings, *inuk*, but with a personal affix, *inua* "its human being."

This mode of expression is naturally used in daily speech. The *inua* of a house is the human being living in it. A live young bird within its shell is the *inua* of the egg. How natural then that also a large stone or a cave, the moon, the sea, sleep, in short everything to which power is ascribed—also the appetite, the strength of which the Greenlander feels every day—must have an *inua*, representing the life and power of these things. The *inua* of such an object is naturally able to move about outside the object itself and to present a different appearance, to act independently of that which he represents, but to the mind of the Greenlander he is always closely connected with his place of abode.

We must begin by mentioning the power ascribed to *sila*, which means the space outside the houses, the air, the weather, the world and also understanding. *silap inua* the *inua* of the weather or most frequently only *sila*, is naturally a most important factor in the life of the Greenlander. His occupation depends on the weather; he must be careful never to offend *sila*, for then it becomes angry which in its turn leads to storms and bad weather. The rules of *taboo* must be strictly observed. As *sila* may be mentioned without adding *inua* in the sense of power, in the same manner the Greenlander, in this case, relinquishes his tendency to personification. For that matter the word *sila* is so comprehensive, that it cannot very well be limited.

It is difficult to form any idea of how *sila* or *silap inua* should be personified, whether as a male or as a female being. It seems probable that *sila* is the same as *pínga* "he or she up there" who was supposed by the first missionaries to be a survival of old monotheism.

The *Moon*, according to a common Eskimo tradition, is a brother who in carnal desire pursues his sister, the Sun (cf. p. 255). But the Man in the Moon (*qáumatip inua*) is according to popular belief the one who possesses the power of the Moon. He visits the Earth in the shape of a huge man with huge dogs before his sledge. It is dangerous for young women to meet him. He receives guests who, possessed of the power of *angákoqs*, venture to undertake the dangerous journey to his house. He sits whittling walrus tusks, the shavings of which fall down on the Earth, in the shape of snow. In East Greenland he seems to occupy a very powerful position, as the one who watches over the rules of *taboo* and punishes transgressions (cf. p. 256).

The power of the sea is personified by the *Old Woman*. She rules the animals of the deep which live as vermin in her hair, and she has the power to send them up to the world of man or to keep them back when offended. When sealing fails, it is the task of the *angákoq* to go down to the depths of the sea and to overpower her, and then he combs her hair so that the seals are set free and rise to the surface.

In man himself, life and power is represented by what is called *tarneq*. It is practically the equivalent of soul, and means something like



darkness, shadow. A human being has his soul, and so also each part of the body has its soul. As to the appearance of these souls the Greenlanders have very vague ideas, and the different explanations from different times and places must probably be ascribed to well-meaning questioners who demanded an explanation and, consequently, got it. But it is this soul which is the vital force in man. If he falls ill from an internal disease, inexplicable to the Greenlander, it is the soul that has been taken away. The angákoq must go and look for it and bring it back.

Another important factor of a man is his name, *ateq*. When a man dies, his name becomes homeless, and at that time the very mention of it is fraught with danger. As the names of the Greenlanders are frequently names of household implements, of animals and quite ordinary objects, this *taboo* of names necessitates a reshaping and transcription of their daily speech. It is then a question of finding another home for the name in a new-born child, within the same family or at any rate by preference within the same dwelling place. Such a child is given the position of its deceased namesake in the family, and is addressed and treated by the various members of the family in a manner corresponding with this name. The giving of names rests with the old women of the family, but there is nothing to prevent a child from being given several names; it may then be called by all of them, each person using the name in which he or she takes an interest. And, finally, a nickname to which no special strength is attached is frequently thought sufficient for every day use. But the name and the giving of names play a tremendous part in the lives of the Greenlanders. Even at the present time, after many years of Christian influence and generations of imported baptismal names, the original belief attaching to names lives undisturbed in most places.

The special power attaching to the angákoq and his activity is represented by the so-called *tórnat*, assisting spirits. The strength of an angákoq depends upon the strong *tórnat* whom he has managed to get into his power. It is the *tórnat* he calls to him by his incantations, it is the *tórnat* he sends out, and who carry out his behests in places where he is not absolutely forced to go himself, but in that case he is under their protection. There are no rules as to the number of *tórnat* which an angákoq must have, and all sorts of things can be used. They may be animals from the actual world or the legends, and then again they may be legendary figures; it also seems as if they may be deceased people. But whoever or whatever they are, they place their special power at the disposal of the angákoq. They are assisting spirits and personify his magical power (fig. 2). In East Greenland they are called the *tártai* of the angákoq, that is his *inue*, the word *tâq* there being used in place of the West Greenland *inuk*, human being.

A *tórnaq* who plays a special part is the *tórnârssuk*, which strictly means the "nice, little assisting spirit." As to his size and appearance opinions vary greatly. But as contrasted with the ordinary *tórnat* he is able to act without

the intervention of an *angákoq*. It has been possible to speak of the *tórnárssuk* of a water pool, in the sense of a baneful force contained in it. When the thundering of stone slides are heard from the mountains, the Arctic Highlanders may say that it is the doing of the *tórnárssuk*. Thus, the *tórnárssuk* is not strictly an assisting spirit. The first missionaries regarded him as the deity of the Greenlanders, and for a long time called the Devil by his name, but that was to ascribe too great an importance to him. There is a marked difference between the native conception of him in the different localities, and upon the whole the Greenlanders are very vague regarding the power and position of the *tórnárssuk*.

### ANGAKOQS AND WITCHCRAFT.

The *angákoq* is the agent of the religious cult of the Greenlander, the same who among Asiatic peoples is called the *shaman*. His very name is associated with age and probably means the elder of a family. He is everywhere of considerable importance, the very fact of being an *angákoq* investing him with great influence. He is the wisest person who knows everything regarding the rules of *taboo* and the supersensual powers. He is the strongest person, the one who has the power to conquer and to help. It is not an office. Anyone has the chance of becoming an *angákoq*, also, though more rarely, women. There are often several *angákoqs* within a small Greenlandic community. It is, so to say, a private practice. The prestige of the *angákoq* may be explained on the strength of his personal qualifications, his understanding, his wisdom, his authority. But not altogether. In order to understand the position occupied by the *angákoq* in the religious life of the Greenlanders we must first try to realize the nature of this life, and here special emphasis should be put on the fact that however strong the sober and trivial element is in the religious cult of the Greenlander, his existence being, as it were, interwoven with this element, still its climax is the *ecstatic state*. The Greenlander, as already mentioned, is very easily and strongly influenced. With his monotonous existence and his strenuous efforts to obtain the barest necessities, he greatly needs the experience which bursts all bounds, and for a short while lifts him above everyday life and places him face to face with the supersensual. Addicted as the Greenlander is to pleasure and festivity, in the same manner he hankers for the ecstatic state. The true *angákoq* is then the one who has the power to get into an ecstatic state, and has trained himself to do so, when circumstances demand and permit. Here, there is naturally a wide field for delusion, indeed, even for more or less deliberate deception. The Greenlanders are quite aware of this. Ordinarily they are very well able to make fun of the *angákoqs* and their tricks. But when the hour of ecstasy arrives, both parties are equally serious. For the ecstatic state has power over the mind of man; it carries away, acts as an infection

and is contagious. The one angákoq may help the population of the whole dwelling place to experience the ecstatic state.

When a Greenlander wants to become an *angákoq*, he goes into solitude and sits quietly near a large stone; with a smaller stone which he holds in his hand he rubs the large stone, until the ecstatic state comes upon him in the form of loss of consciousness, in the course of which he undergoes *the* wonderful experience. During the ecstasy the beings come to him which are to be his *lórnat* or assisting spirits. This proceeding he repeats on subsequent occasions, until he has achieved his aim and made sure of the assistance of a sufficient number of powers. The uniform manner in which the probation of the angákoq is described in the different localities shows that tradition plays a great part in the experiences undergone during the ecstatic state. He frequently feels it as a fight against a huge bear, in the course of which he is torn to pieces, but then comes to life again.

After having passed through this experience the probationer is qualified to act as an angákoq and *must* do so, or he is otherwise bound to become a practiser of wicked sorcery. He has various external means to bring about the ecstatic state. The house must be arranged in a special manner, the lamps put out and the drum used, the latter by its monotony exercising a strong influence wherever it is introduced. A description of such a performance has been given (Med. o. G. XXXIX pp. 91—93) by G. Holm who himself was present at it in East Greenland, which description will be given *verbatim*.

"After an hours' waiting during which the angákoq lay quite still in the dark on the platform behind, everything was made ready. New, dried waterproof skins were hung in front of the house entrance, and other skins in front of the window above the entrance, while the other windows, at least that before which we sat, were left uncovered. After the floor round the entrance had been carefully swept and scrubbed, and all dirt removed from between the flag-stones, a hair-covered skin folded double was carefully arranged before the door hanging. A large flat stone was placed to the right of the entrance, so that it covered the cavities between the flag-stones. When the drum had been moistened, it was, together with the drumstick, laid upon the flat stone. A long hairy rawhide cord was softened in due form by rubbing and stretching.

"At length Sanimuinak appeared. He had the appearance of a sleep-walker or a visionary and walked straight on without looking to the right or left, and sat down on the skin on the floor. He arranged the flat stone and the drum with great nicety. His hair was bound together in a knot behind, and a rawhide cord pressed down over his forehead. The man who had prepared the long cord now bound the angakok's arms with it behind his back, winding it round them right from the hands to the elbows, and tightened the cord till the hands became quite blue. During this procedure



the angakok snorted and groaned, as if he were under the dominion of some mighty power. When he saw that I was watching the binding of the arms with great interest, he said to me in a pitiful tone that I could see that it would be impossible for him to untie them. I was assigned a seat on a skin on the floor—a cool position—while all the others crept up into the platforms one by one. Thereupon the lamps were extinguished, first the one which was furthest to the left of the angakok, then the next in the row and so on, the one furthest to the right being extinguished last and leaving the house in complete darkness.

“The spirits were immediately summoned with the cries: “Goi! goi goi

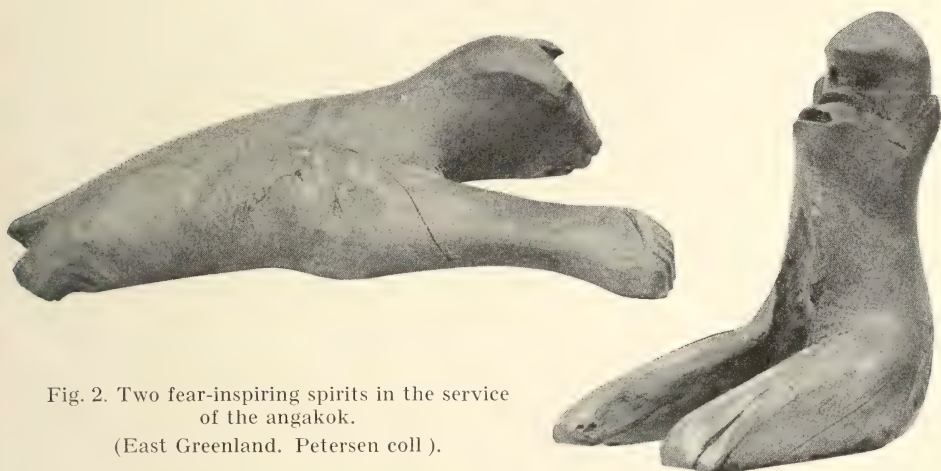


Fig. 2. Two fear-inspiring spirits in the service of the angakok.  
(East Greenland. Petersen coll.).

goi!”—proceeding now from one voice, now from several, now from one part of the house, now from another. All the while the angakok kept puffing and groaning and heaving heavy sighs. All at once the dry skin before the entrance began to rattle, as if caught by a rushing wind. The drum now started into motion, dancing first slowly then with ever increasing speed, and mounted slowly up to the ceiling. Now ensued a veritable pandemonium of noises, a rattling, a blustering and a clattering, reminding one at one moment of a machine-factory at work, at another of the puffing of engines, and now seeming to proceed from a number of great winged creatures. In the midst of this hideous din the platform and window-sill would ever and anon shake. At one moment it was the angakok one heard, succumbing to a power mightier than himself, groaning, wailing, shrieking, whining, whispering; now came the sound of spirit voices, some deep, some feeble, others lisping or piping. At frequent intervals a harsh, demoniacal, mocking laughter made itself heard. The voices seemed to proceed, now from above, now from under the ground, now from one end of the house, now from the other, now from outside the house, now from the passage-way.

“Cries of “hoi! hoi! hoi!” seemed to die away in the far distance. The

drum was manipulated with extraordinary dexterity, frequently making the round of the house and particularly often floating above my head. The beating of the drum was often accompanied by singing, which ever and anon was subdued, as if it proceeded from the nether world. Lovely women's voices were sometimes heard from the background. Then once more that deafening chorus of clattering, rattling and blustering noises,—the drum fell to the ground with a clash, and all was still. This was the signal for the entrance of the dreaded monster, *Amortortak*. As already related, it has black arms, and anyone whom it may happen to touch turns black and is bound to die. It walked with a heavy tread round the house and on the platform and roared out crying "*a-mo! a-mo!*" All cowered into the furthest recesses of the platform for fear that the monster might touch them. It dinned in my ears and tried to tear away from me the skin on which I sat, in order to get me up in a corner with the other people, but only succeeded in tearing the skin. After this creature there came another who cried like a fox. One of the *tartoks* declared that it smelt as if *Kavdlunaks* were present, and made careful inquiries about us. With this exception the language of the spirits was abracadabra to us.

"The host, Kutulak, now asked me, prompted of course by the *tartok*, whether I had had enough of incantations for that evening, as in that case the rest would be kept for another evening. As the performance had already lasted about an hour, and it was stifling hot in the house, I could not but assent, and the *tartok* was informed of my desire. It was, however, unable to tear itself away so quickly; its retreat was slow and by no means so noisy as its entrance. After some time had elapsed, someone asked whether they might not light the lamps, whereupon *Sanimuinak* answered in his own natural voice that his *tartok* was still present. The man who had spoken had presumed that "it had gone; for the sound of the drum was no longer heard." Whereunto *Sanimuinak* replied that there must have been someone who had touched the drum, as the *tartok* would no longer beat it. Presently, however, the drum started afresh, and the retreat took place amid the rattling of skins and lingering song.

"The lamps were lit in the inverse order to that in which they were extinguished; and all were sitting on the places they had occupied before the performance commenced. The *angakok*, bathed in perspiration, was sitting in the same place as at the beginning. His hands were tied behind his back in the same way, but not nearly so well as before."

A *seance* of this kind is the climax of the religious life of the Greenlanders. It is held at times when sealing fails or during epidemics and the like, but sometimes it is also held without any actual reason as a kind of entertainment.

The *angákoq* also resorts to the ecstatic state when called to a sick person. As a rule he contents himself with merely indicating it, for instance, by

lying hidden under a skin for a long while, until the assisting spirits have shown him what is the cause of the disease and the remedy for it.

During the *seance* the angákoq makes his journeys to the "Old Woman," in order to set free the animals of the sea, to the moon or to the desolate peak where the soul of the diseased one sits shivering. From his assisting spirits he gets the necessary information and the strength required in order to help. When he returns to the sick person with the soul which had been lost, he blows it into him. The actual treatment of diseases is not within his province, with the exception of *taboos*, frequently relating to what the diseased person is not permitted to eat. His assistance is also called upon in order to make married childless women conceive.

If a Greenlander has taught himself the arts of an *angákoq* without telling it, then he is an *ilisítsoq*, a sorcerer. The witchcraft practised by the *ilisítsoq* is black magic, the inverse form of the religious power of the *angákoq*. He is able to make *tupilait*, the monsters mentioned above, which are composed with incantations of all sorts of things and then imbued with life and sent out to kill enemies. An *ilisítsoq* is able to call down disease over anyone, and when accidents or diseases occur, the Greenlanders are very apt to ascribe it to the practices of such an *ilisítsoq*. Perhaps the *angákoq* finds him (or her) and eggs on the members of the dwelling place to rid themselves of the evil-doer by murder. This belief in witchcraft plays a great part in the existence of the Greenlanders, but how to connect it with their other groups of ideas is rather a difficult problem.

### FORMS OF RELIGIOUS CULT.

The ecstatic state in which the *angákoq* practises his arts, and by which his neighbours are lifted up to a half-frightened, half rapturous state of mind has already been characterized as the climax of the religious life of the Greenlanders. When from this we pass to a description of the rites of their cult, it seems natural to begin by mentioning such *festivals and games* which are connected with it and which might be said to be on the same level as the ecstatic state.

It seems, however, that such elaborate observances and rites as are known from other Eskimo tribes are more or less obliterated in Greenland and only to be traced in faint rudiments. The house of festival, *qagsse*, with which in most localities these rites and observances are associated has never been found in Greenland, and it only exists in name and in the traditions of the legends. The festivals, frequently entertainments on a grand scale with drum singing and dancing, the memory of which still exists, and which gathered people from far and near, naturally had a religious character, in addition to their social aspect, to which we will recur elsewhere. But we do not know much of where and when they took place. There is a description



of a festival at the winter solstice, but it is not a reliable account. Possibly old rites are kept up in a number of imported European games, which must be said to have undergone a special development along Eskimo lines. But

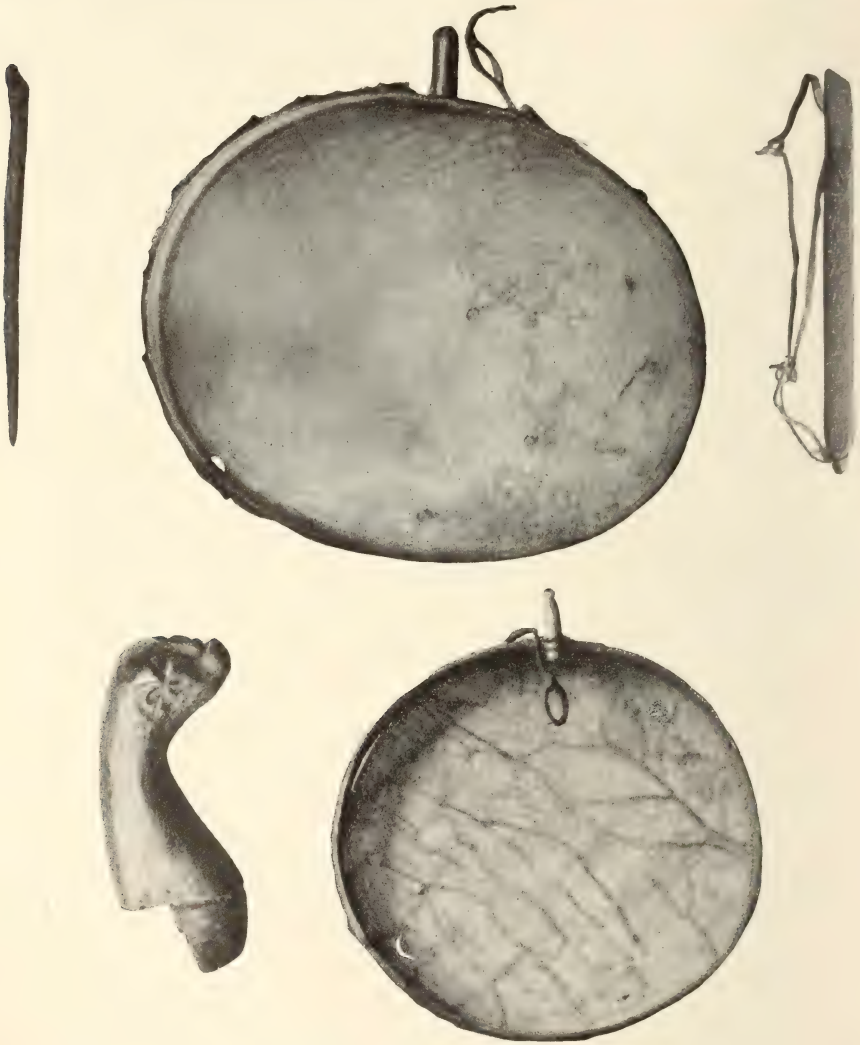


Fig. 3. Drums with handles and sticks (Holm collection).

everything points in the direction that this weakening of the national life is not merely due to the colonization or to the indifference or restistance of the first missionaries, but rather to the circumstance that the Greenland tribes have lived beyond the sphere of development, from which the rich festive life has sprung. Even in East Greenland, which was explored at a time when the original characteristics were in full force, and also at Cape York, there are only faint reminiscences of it. In East Greenland a festive

game occurs of a decidedly dramatic character, where the male actors are dressed up, and where each has his special part with the appertaining mimicry and singing. A common game throughout Greenland was the game of "putting-out-of-the-lamps," accompanied by promiscuous copulation, and it is taken for granted that this custom was originally of a cultic character. Other games have degenerated into mere pastimes for children. In East Greenland masks occur, perhaps survivals from old rites of the cult where the same development has taken place.

Everywhere in Greenland the *drum* has been the instrument specifically connected with the religious cult, even though it has also been used for ordinary entertainments with singing and dancing. It consists of a hoop made of wood or baleen, with the belly skin of a seal or bear stretched tightly over it, and the player strikes the hoop with a short, flat piece of wood, frequently ornamented. The monotonous rythm, hammered out with increasing emotion is well adapted to produce an ecstatic state in player and spectator (fig. 3).

The *sacrifice* is also to some extent of importance in the religious cult of Greenland. The gift which, in any given case, is the due of the angákoq apparently has a religious significance, the value and force of the incantation being entirely dependent upon it, and so it may be regarded as a kind of sacrifice. But there are certain places, rocks, caves, most frequently at dangerous passages, where the Greenlander always takes care to give a gift, a piece of blubber or the like, when he passes.

The Greenlander has *serratit*, ritualistic formulæ or charms to be used when in danger or under special circumstances. He has learnt them from the older people, and their force, among other things, depends upon the price he has paid in order to learn them. He may in his turn, but reluctantly, teach them to others, also for payment. But then they are no longer his, but belong to the buyer and only possess power for him. These charms are generally quite short verses, frequently of very slight meaning and lengthened by repetitions and interpolated exclamations, sometimes by song. We quote (from Knud Rasmussen: "Myter og Sagn" I).

*A charm which gives quiet weather.*

Ija, ija—a mighty storm—ija, ija—passes outside of me.

Ija, ija—quiet and smooth lies my way—ija, ija.

What is it that makes smooth my way before me?

Now there is no longer any danger.

Ija, ija—I paddle along in quiet waters—ija, ija.

*A charm which procures good hunting or sealing.*

(The repetitions and exclamations left out).

What is it that passes in front of me, across my road?

A fiord seal creeps in front of me, across my road.

Be fearless and tractable!

Whereas the above-mentioned cultic forms and remedies are used at times and under circumstances where the Greenlanders are in particular need of their strength, there are other cultic forms, the character of which is continuous and uninterrupted. This applies to the innumerable *cultic observances*, which fill the existence of the Greenlanders, are woven into the whole fabric of his life, and as it were form a sort of straight jacket round all his movements and inclinations so that there is hardly any moment or state in which he is able to feel master of himself. These cultic observances or *taboos*, as they are called with a view to religio-historical comparison, are inherited from former generations; only in rare cases are they of any definite value—nor for that matter, is this of any significance to the people—but they are always essentially religious and of undisputably imperative import. Their violation quickly calls down punishment, and if anything untoward occurs, it will immediately be ascribed to a transgression of the rules. A sick Greenlander thinks himself unable to recover, until he has confessed his transgression, and that he should do so is the task of the powers or power, which is supposed to be the guardian of authority in the place in question.

There are *taboos* applying to all sorts of things, sealing and hunting, the work of the women, food and the manner of eating, dress and hair. There are rules for pregnant women and women about to be delivered, for the treatment of new-born children, for the initiation of half-grown boys into their future occupations, and principally for the treatment of the dead and the period of mourning; rules as to what should not be done, touched or eaten, and, on the other hand, as to what should be done and eaten. There are periods and places, where human beings are under special obligations.

These innumerable and inviolable rules hamper *ad absurdum* the life of the Greenlanders. But then, on the other hand, even in his most trivial dealings, he has a feeling of being under some obligation, which is above the demands of his stomach and his body and which makes him feel in league with the powers of existence.

As the cultic observances demand incessant attention and effort, so there is in the forms which are now to be mentioned an unbroken, but more passive cult. They are the *amulets*, which consist of bits of implements, parts of animals, birds, dead people, stones, or wooden figures, or are composed of very different things following traditional rules and ascribing to each object a special power (figs. 4—6).

By cultic formulæ they are imbued with life, and they are possessed of the power to protect, to help, to procure good sealing and hunting etc. They are worn against the body, round neck, arm and ankle, sewed into the clothes, placed in the kayak and the umiak, made fast to the weapons or put in houses and tents. According to tradition they place the owner in a certain relation to the powers, and when he is in danger, they may become



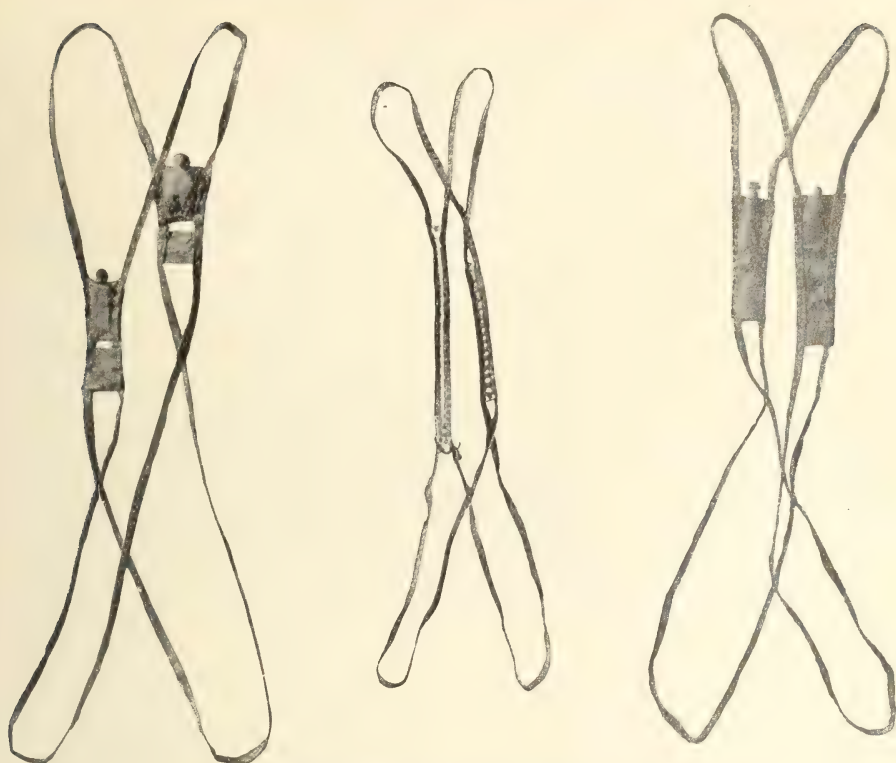


Fig. 4. Men's amulet harness (Holm collection).

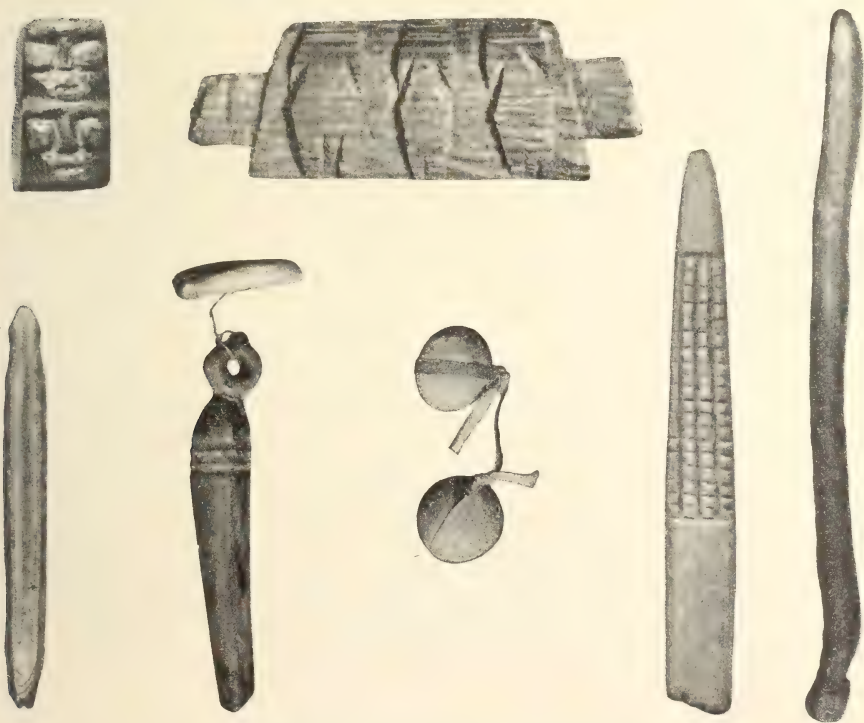


Fig. 5 Amulets made of wood (Holm and later collections).

alive and imbue him with their inherent strength or change him into a being of the nature of the amulet, a bird, a seal or the like.

*Tattooing*, too, has been used by the Greenlanders and presumably also has a cultic character.

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This then was the religious life of the Greenlanders until they came under the influence of Christianity. Thus they live to this day at Cape York, and thus, until quite recently, they lived in East Greenland, from where we have the most detailed descriptions. In West Greenland this primitive religious element has to a certain extent disappeared in the course of the two centuries of missionary activity, that is to say, it only appears in occasional glimpses on the surface, but on the other hand it constitutes the solid substratum of the national psyche of the Greenlanders, and without knowledge of it no one will be able to understand the manner of thinking and the ways of the present-day Greenlanders.

By describing, not by classifying, we have given to the religion of these people its place within the history of religious development. It fits them as hand to glove, and there is no reason to suppose that it has been imported. It makes the impression of having grown through thousands of years together with the Eskimo people.

#### DEATH AND THE DEAD.

The Greenlanders are not afraid of dying. To the primitive mind whatever must happen happens, and resting content in this thought they look death in the face without fear. Even before death the dying person is clothed in his grave clothes, that is his best clothes, and his relations speak openly of his death. There are many instances of old and tired people who when they realized that they were becoming a burden to their neighbours have themselves asked to be placed in the open so as to freeze to death, or to be allowed to jump into the sea, and their children have granted their request.

But from the dead, the Greenlanders shrink in great fear. There are a number of *taboos* in connection with a death. It was never permitted to carry the dead out through the passage-way, but only through the window, or from a tent through the skins farthest back. Their belongings were unclean, and no one was allowed to touch them. Also, for a certain period after the death the survivors, especially the nearest relatives, had to observe many rules. Thus a widower for a certain period was not permitted to go out sealing or hunting or to eat meat, and a widow was not allowed to go out into the open air or to look out of the window. The name of the deceased person was *taboo*.

The dead were generally buried in stone-set graves, although in East Greenland they were sometimes thrown into the sea. Judging by the graves found the manner of burial seems to have varied greatly. The most frequently occurring form is the single grave, in which the deceased person is placed at full length or doubled up. The same grave could be used for subsequent burials, and there is no doubt that graves are to be found where several bodies were buried at the same time.

Amongst the burial rites must be reckoned the deposition of grave goods, the belongings of the deceased person or sometimes miniatures of the latter.

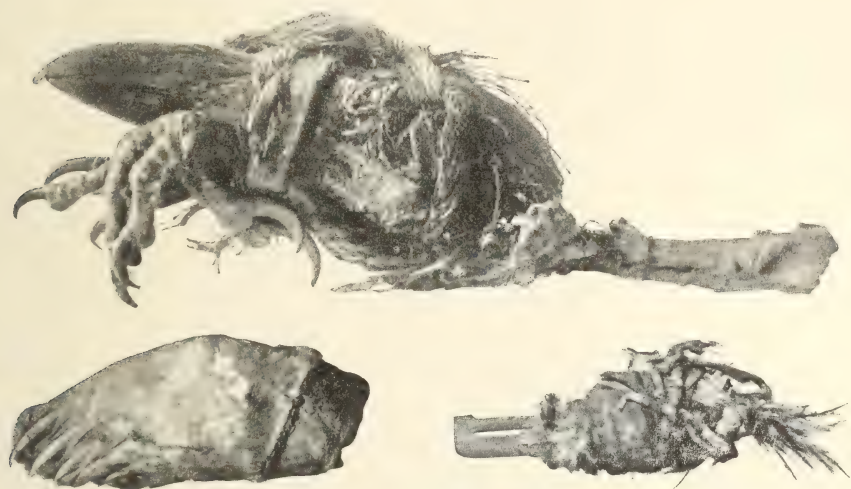


Fig. 6. Amulets made of parts of animals (Holm and later collections).

At other times the implements placed in a grave were broken to pieces. Children were buried with their playthings, and according to an early account, the head of a dog was deposited in the grave.

All these rules were closely observed, partly in order to escape the punishment which is always the result of transgression, but partly also in order to safeguard oneself against the deceased person who was supposed to be dangerous to the members of his own family, with whom he might be thought to want to re-establish communication. A murderer would naturally have to take care that his victim did not take revenge after death. According to tradition there are rules applying to this, for instance, that the murderer would devour some part of his victim's body, but whether this has really been done in some of the many cases of murder, nothing can be said for certain.

It is a common belief that a deceased person, or at any rate part of him, perhaps his soul, is alive or can be alive. But the vagueness of the ideas prevailing on this point seems to suggest that every single individual or every group had its own thoughts. Whenever there is any connection at



all, it is between the deceased person and the grave or between the deceased person and his relations. On the other hand, traditions exist of the nether world or the upper world as the place to which the dead go. Some of this may be due to the questions put to the Greenlanders by missionaries who started from their preconceived ideas. But as already suggested there is nothing to prevent the existence and growth of conflicting ideas within the native mind.

### ART AND GAMES.

The same desire to go beyond the everyday life, to be carried away, which, as we saw, made the basis of the religious life of the Greenlanders, we also



Fig. 7. Embroidered ornaments (Holm).

meet in their art. It is strange that the struggle for existence, carried on in the inclement arctic regions, has left them time to cultivate an artistic instinct. They must, therefore, be possessed of a surplus of vitality, besides an instinct for form, for which they find the most beautiful expressions.

The art of the Greenlanders is naturally in the main applied to the objects of art which they themselves make and employ. The women furnish their own apparel and that of their menfolk, as well as skin utensils, with embroidered ornaments; the men carve their weapons, vessels and implements in wood,

bone and walrus tusks, shape them according to traditional patterns and decorate them with pricked or inlaid ornaments (figs. 7—8).

The art of the Greenlanders is decidedly *ornamental*. It pleases them to let the eye follow a succession of *motif*-unities, continued tirelessly, as it were indefinitely, and requiring no interplay, no construction. We refer to

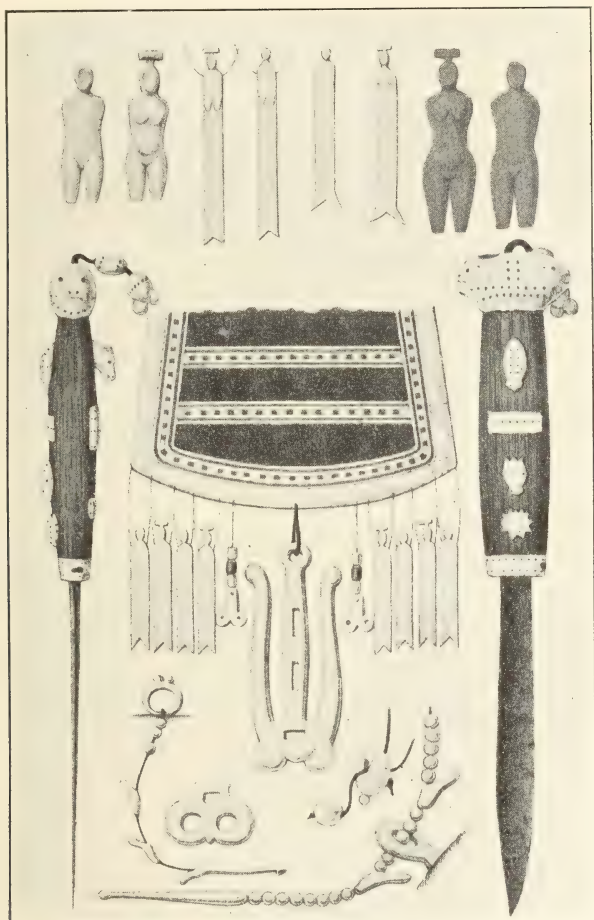


Fig. 8. Ornamental art (Holm).

what we have already written in a previous chapter and will recur to in our descriptions of the various groups of ideas. But although in the main limited to the purely ornamental, the art of the Greenlanders has attained a pretty high stage of development. The *motifs* are traditional, but the use to which they are put is original, and we hardly find two objects which are ornamented in the same manner.

The traditional *motifs* are the dot, the circle, the straight, the zigzag and the wavy line. They offer rich variety, being made with dots or strips

of skin, white on dark and dark on white. Another method is to dye skins with bark, blood, or red earth. The men make the same *motifs*, inlaid, with little bits of ivory, and on ivory objects they prick and carve the patterns in order to fill them with a black mass of soot and seal oil.

Another series of *motifs* are figures shaped ornamentally, of which some are easily recognizable as conventional impersonations of seals and whales. The latter are carved in ivory and laid upon the wood, so as to stand out

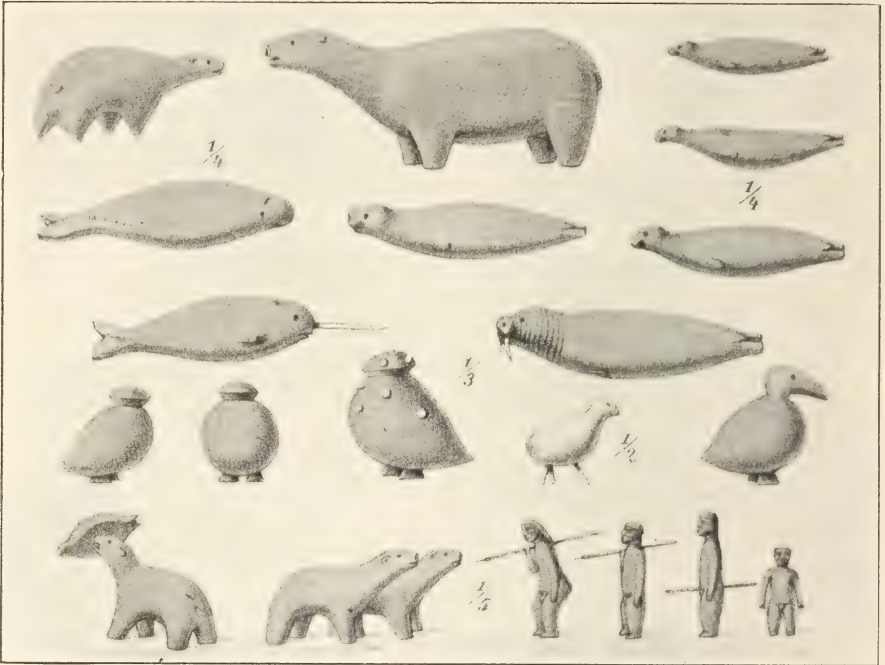


Fig. 9. Figures carved in wood (Holm).

in relief. In skin embroideries human forms occur. This type of ornamental art is greatly, almost profusely, developed in East Greenland, and is at times of quite exaggerated proportions.

Finally there are detached figures carved in wood and bone. Perhaps the course of development is that the Greenlanders began by carving handles for drums and other extremities for implements, in the shape of heads and bodies, probably with the underlying idea that they should serve as amulets. The transition to entirely detached figures is easy enough, and the latter are conventional representations, both of animals and human beings. As mentioned above the figures are as a rule characterized by a sense of ornamental repose and are mutually independent. But sometimes there is also an attempt at telling a story. A very common toy is the two nodding birds, which are alternately pulled up and down. There is also an element of



description in the figures representing a bear hunt (see figs. 9—10), while the piece of wood carved in relief (fig. 11) represents a group of figures, which

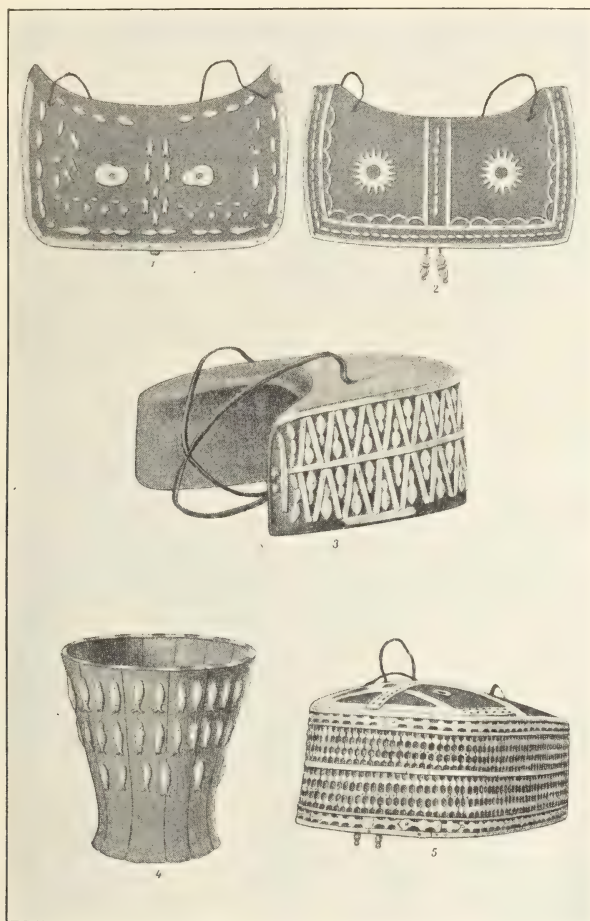


Fig. 10. Ornaments (East Greenland. Holm).



Fig. 11. Relief decoration on a piece of wood (East Greenland. Petersen).

apparently belong together, although it can hardly be said that there is any interplay between them—in the middle a human figure and round it conven-



Fig. 12. Dolls carved in wood (Holm and later collections.)

tional representations of animals. It has been conjectured that it represents an *angákoq* and his assisting spirits.

We have already mentioned one toy, the nodding birds. The detached figures (fig. 12) are dolls for the children to play with, and fathers have been very diligent in making toys and games for their little ones. We find various forms of these, *viz.* the top, the buzzes, the bull-roarer, rattles and

the “ring-and-pin” game (*ajagaq*), which is also played by grown-up people (fig. 13).

The game of ball has everywhere been a favourite sport (fig. 14). It has been played in different ways, either as football or hand ball. It is one of the attributes assigned to the ideal legendary hero that he was able to play at



Fig. 13. Nodding birds (Holm).

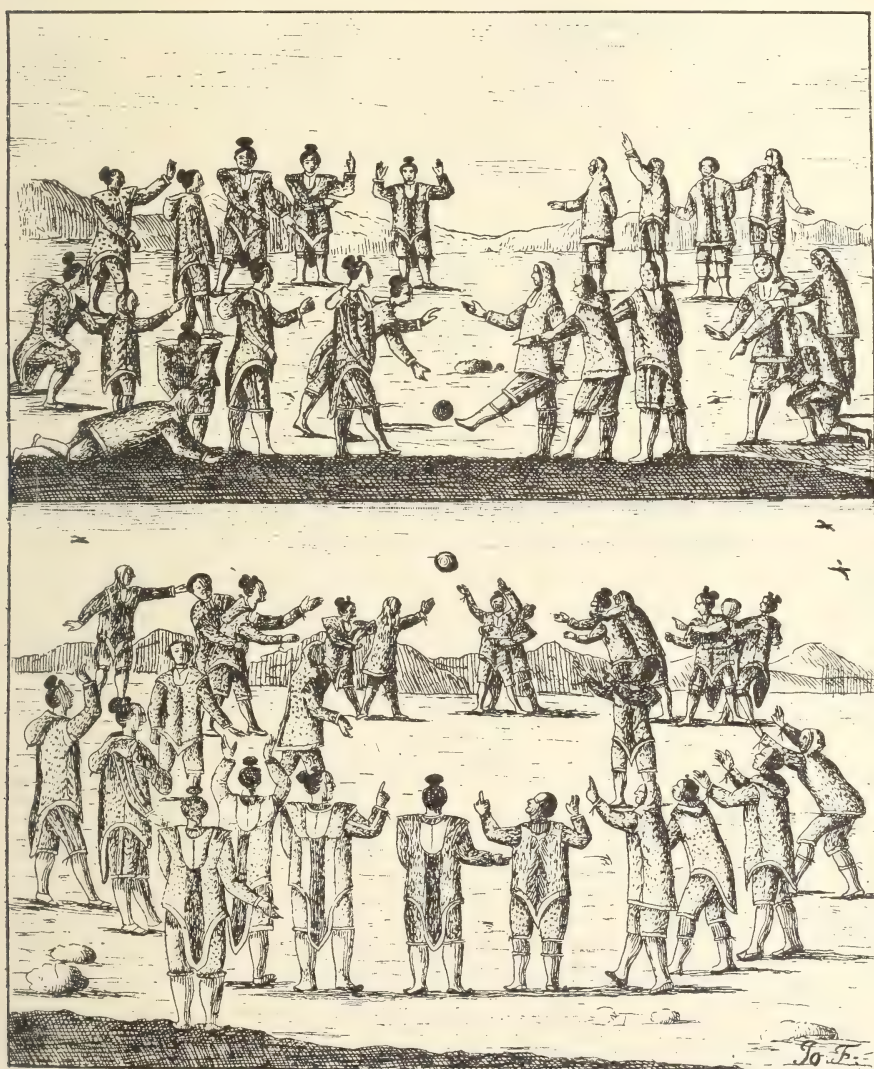


Fig. 14. Playing at ball in West Greenland. (Hans Egede, 1741).



ball with the entire skin of a large seal, stuffed with grass. This was the game for which combatants assembled from far and near in order to win the prize. The other trials of strength, as for instance the pulling of hooks with arms and fingers, were more between man and man.

After the Greenland art had come under European influence, it began to set itself other tasks. The ornaments on skin clothes and weapons were retained, though they have been transferred to such articles as were demanded by the Europeans, and the Greenlanders, in their turn, learnt new *motifs* from the Europeans. This also applies to the various games. But in spite of all influence from abroad, the Greenlanders still have their unerring sense of the beauty of form, and they are unusually able craftsmen in all materials.

### LEGEND AND TRADITION.

The world as revealed through tradition, the innumerable fables, fairy-tales, legends, stories and reminiscences which make the treasure and pastime of the Greenlanders, is naturally entirely their own world, magnified, glorified, revalued and frequently distorted so as to present a grotesque appearance, but always a mere reflection of the world in which they themselves live, and the joy they take in it is fundamentally the joy of recognition.

When the sealers have returned, when the meat is boiled and eaten, and the pleasant feeling of satiety has settled on them, then is the hour for telling legends. In the low, blurred light, emanating from the blubber lamp, the Greenlanders revive the old tales, in a sing song tone, at the same time monotonous and charged with intense excitement. They are descriptions which the listeners know and have heard many times, but it is the sense of recognition, the reflection of their own existence on sea and platform, of their own experiences and emotions which calls forth surprise, fear, applause, laughter. Therefore, it is the details rather than the plot which are the chief element of the tale. The native art of telling tales has the same characteristics as the language and the plastic art, in that it is ornamental, with co-ordinate, not composite *motifs*. There is no interweaving of persons and events, which aim at a catastrophe and end in an explosion. The tales present one picture after another and, for that matter, may continue indefinitely. For Europeans they are therefore apt to become somewhat monotonous and tiring. But the Greenlanders appreciate them. As they are, so is his own mind. He does not want to be roused or stirred by them. They are meant to pass the time. The story ends with the exclamation of the narrator, as quoted by Knud Rasmussen: "Now the story is ended, and the winter is that much shorter."

The Greenland legends and tales are all inherited from past generations. A number of them belong to the common Eskimo legendary material, and

thus go farther back than we are able to follow. This handing down has only been made possible by an extremely faithful adherence to traditions. One might almost be tempted to think that the tales have passed down through the generations as a sort of cliché. But this is not the case. We now have the same legends communicated to us from various sources, so we are to a certain extent able to control their uniformity. The renderings are not exactly alike. There are, it is true, certain elements in the tales which are invariably the same, the actual *motif*, the *dialogue* and the *name*, but apart from those the narrator is able to exercise considerable freedom. It is also a fact that the tales have been created, not merely in a mythical primeval past, but also in historic times, indeed, as late as our own days. We see that the Greenlanders have tales of their fights with the Norsemen, even though inherited elements have been included. Indeed, in West Greenland we have a family saga from as late a date as the colonization period in the 18th century, and which on certain points may be subjected to the control of history (cf. p. 259). It is in so far not merely a medium for reproducing but also for recreating, which has now probably been stopped by the invasion of foreign culture. Still, it has not spoilt tradition, which still lives.

If the current legends are known by practically all Greenlanders, it is not everyone who has the power to tell them. From time immemorial there have been a few old and wise men or women who have been the "bards" of their dwelling place, and even the present-day Greenlander listens with pleasure to these narrators and enjoys their art to the full. They accompany the smoothly gliding narrative with movements of hands and arms, not very many and those always the same, in order to illustrate the climax of the events. A certain poetic form, an almost rhythmic effect is given by the repetition of the same word or a short phrase, which impress and adjust the minds of the auditors by making them expectant. This we shall later on recognize as the poetic form of the verses.

What then are the contents of the legends? Broadly speaking, the entire range of ideas of the Greenlanders. They themselves make a certain, though somewhat indefinite distinction between them, according to whether they are, or are not, dealing with actual events (*oqalugtuat* and *oqalualât*). There are tales of animals, of intercourse between animals and humans, of the mythical beings, some of which have been mentioned in former chapters, of the mythical places, of the experiences of the angákoqs on their passages to the moon or the Old Woman of the Sea, of heroes who in courage and strength, as skilful kayakers and sealers, and also as conquerors of women and subjugators of rivals, stand as the personification of the Eskimo ideal of a man. There are tales in which we glimpse the reflection of historical events, from times when the homes of the Greenlanders were elsewhere, and when they lived in contact with other tribes and races, even though, on the

other hand, we should not draw extreme conclusions from such evidence. We have mentioned the tale of the Norsemen in Greenland and a family saga.

As is to be expected they are descriptions, not explanations of what happens, except when the narrator thinks it necessary that such explanations should be added. What actually happens, is meant to give us an impression of what moves the soul of the person in question, and so it does. Therefore, the legends yield ample material for understanding, not merely the range of ideas of the Greenlander, but also the workings of his soul, and for these they frequently find poetic and condensed expressions. The tale of the sealer from Aluk, who died from sheer joy at seeing the sun rise on his native place is an expression of a strong feeling for nature. In one legend a man bent on murder is described by showing how his kayak vibrates so that the water is set into motion, while he is apparently paddling quite calmly. And there is an incomparable metaphor used about the longing lover who has obtained the consent of the mother of his beloved: Peace had now settled on the mind of Síngajik, such a peace that it seemed to him that he was sitting in the midst of a large plain.

As examples of Greenlandic legends we will give the following, which were written down in different places.

#### THE LONG-TAILED DUCK AND THE WHITE GROUSE

(from East Greenland. Med. o. G. XXXIX).

There was once a long-tailed duck and a white grouse that had human form. When the long-tailed duck came down to the sea-shore, it said to the grouse: "Why do you wear thick stockings in the middle of summer?" The grouse answered: "Why do you wear an *ituartit* in the middle of summer?" The long-tailed duck got angry at this, and proposed that they should wrestle. They now seized hold of one another and began to wrestle. The duck dragged the grouse down to the shore, and cast it out into the water. They went on wrestling in the water, until they came below the surface; here the grouse tore open the duck's breast, so that it died. The grouse flew to land and cried in glee: *kakerkaka!*

#### THE BLACK GUILLEMOT IN HUMAN GUISE

(from West Greenland. Med. o. G. LXVI).

There was once upon a time a bachelor, who was mocked by the other inmates of his house, because he could catch nothing, and had to live on the prey of others. He then resolved to run away from mankind, and paddled away. When he passed a headland, he discovered a lighted window pane on a ledge. He paddled there, and a man came down to the shore, calling that it was now too late to go out hunting. The bachelor then went into



the house. It was very light in there. But his host and hostess were both of them very dark of complexion. They gave him fresh boiled sea-scorpion to eat, and he remained there during the night. The next day, when he was leaving, and they pushed his kayak into the water for him, he turned his head, and lo!—there was not a single human being to be seen, but only two black guillemots living in a fissure in the rock. Now, however, the man preferred to return home and relate the strange thing that had happened to him.

#### THE SUN AND THE MOON

(from East Greenland. Med. o. G. XXXIX).

The Moon dwelt in a house in this country, where his sister, the Sun, also dwelt.

When the lamps were put out in the evening, the Moon went and lay with his sister. As she wished to find out who it was lay with her night after night she smeared her hands one evening with lampsoot. When the lamps had been put out, and he lay with her as usual, she rubbed her hands over his shoulders. Next morning when the lamps were lit, his sister said that there was someone who had soot on him; but when she found out that it was her brother, she took a knife, sharpened it, cut off one of her breasts and tossed it to her brother saying: "As you seem to be so fond of me, eat me then!" She now took a small stick, stuck some lamp moss on one end of it, dipped it in seal-oil and set fire to it. Then she ran out, and as she ran, she rose up in the air. When the Moon came out and saw that she was up in the air, he ran in and stuck some lamp-moss on his *sermiaut* (a: implement for scraping or knocking the ice from the kayak), set fire to it and ran out with it in pursuit of his sister. But when he came up in the air, the lamp-moss went out, leaving only some glowing embers.

When the Moon's lighted stick is about to go out, he blows on it, so that sparks fly in all directions, and it is those that turn into stars. The Moon does not shine so brightly, because he has only a glow, and sometimes he must go down to the earth to hunt seals; but the Sun shines brightly and gives forth warmth, for the lamp moss was still burning when she came up into the air.

#### THE MAN IN THE MOON

(from East Greenland. Med. o. G. XXXIX).

In the Moon there lives a man in a house. In a passage way there is a hole through which one can peep down on the earth. The earth is so small that all the winter-places look as if they lay quite close to one another. Outside the house there are umiaq props; he has no umiaq though. When the Moon goes out hunting, he draws a dried skin before the passage, and, when he comes home again, he removes the skin and hangs the sledge on

the wall. The Moon has a narwhal to draw the sledge, and he has a dog which is so old that it has no skin on its skull. As everyone knows, the angakut now and then make journeys to the Moon to fetch down children. The dog barks when the angakut draw near the Moon, even if they come from behind. This barking can be distinctly heard in the houses from which the angakut have set out. When anyone makes a noise on top of the Moon's house he waxes wroth and goes out to peep down through the hole in the passage. If the Moon sees a woman who has born e a child that has died—and thus is in mourning—going out into the open air to fetch water or anything else, the Moon drives her in again by making it snow or else by robbing her of her soul. The angakok must then make the journey to the Moon to fetch the woman back her soul. When the Moon shines on a sleeping woman, it causes her to menstruate.

An angakok who set out on a journey to the Moon came by mistake to the mother of the Sun (Jupiter). The mother of the Sun cut him in pieces, took out his liver, and ate it raw. The angakok was on the point of death but he tore his soul out of the mouth of the Sun's mother, as she was just going to eat it, and recovered again.

#### THE ORIGIN AF KAVDLUNĀKS, TIMERSEKS AND ERQILIKS

(from East Greenland. Med. o. G. XXXIX).

In olden days there lived up here a married couple who had a daughter. She had had many husbands; but as she could never keep any husband long, her father said to her: "As you cannot keep any husband, you had better take a dog as your husband."

When they awoke one day, they saw that the dog had got loose and lay by the passage-way. They tied it fast again, but the next morning the dog was again loose and had got inside the passage. They made it fast, evening came, and then the dawn again, and they saw the dog sitting inside the house by the passage-way. They fastened it up again in the evening; and when they awoke next morning, they saw the dog sitting by the platform. It was again tied up, and when they awoke next morning, the dog was lying with the girl who could not keep any husband. The dog was tied up again; but when evening came on, and the lamps had been put out, they heard something rattling, and someone screaming and they lit the lamps. They saw then that the dog was dragging the shrieking girl out of the house.

The girl became pregnant and bore a great number of children at once. As the parents thought that the children ate too much, the father put the girl with all her children on an island, where he brought them food. When he did so, he had the whole kajak full both in front and at the back, and all the children came down to the shore and took everything out of the kayak.

When their grandfather did not come out to them, the dog came swimming with a pair of breeches full of blubber, meat, and other kinds of food.

One day when the dog had thus come over to them stones had been laid in the breeches among the food.

It was therefore all it could do to swim over, but it managed to do so with the aid of a charm. It said to the children: "When your grandfather comes here next time, you must eat him up, because he has mixed stones in the food."

When the grandfather came over next time to them with food, the children came down to the kayak to receive the food, and he said to them: "I suppose you poor things are hungry?" Their mother had told them that they were to eat their grandfather. When the children had eaten up the food, they licked the kayak and ate it. Then they seized their grandfather and ate him, and then their mother wanted to send them out into the world to support themselves. She took the sole of a boot, put some of the children in it, pushed it out to sea, and said: "Your father cannot make anything for you, and so you must learn to make things yourselves."

These children became *Kavdlunaks*. The other children she placed on willow-leaves which were floating on the surface of the water; these she shoved towards land. These children came to the interior of the country, where there is no water, and became *Timerseks* and *Erkiliks*.

The *Kavdlunaks* came to a land where they taught themselves to make iron, ships and houses. They could do everything! The *Timerseks* came in the autumn down to the sea to catch seals, and people can hear them whistle and thunder, and then they say to them: "You must not do your cousins any harm!" When the *Kavdlunaks* wanted to come to these parts, they could not enter for the ice, and that is why iron comes up here from the South. They make iron in large pots which are full of trainoil, into which they shove people. First they become white, then red, then black, and then they become iron and make a singing sound when they are hooked up. Iron did not come up here until the land had broken to pieces and thus came to be like it is now.

THE SEALER FROM ALUK WHOSE HEART BURST, WHEN HE SAW  
THE SUN RISING ABOVE HIS DWELLING-PLACE <sup>1</sup>.

There is a legend of a sealer from Aluk <sup>2</sup> who never left the place where he was born. He loved his dwelling place so dearly that he was reluctant to go elsewhere to catch seal; but then he never suffered want where he was.

<sup>1</sup> Translated from Knud Rasmussen: *Myter og Sagn* II.

<sup>2</sup> Aluk is a dwelling place on the east coast of Greenland, from which there is a wide view across the sea towards the east.



But this man had a son, and when his understanding awoke, he realized that he had never been outside Aluk. When the other men of the dwelling place went out on hunting expeditions, he often wished to go with them, but as he was very fond of his father, he never showed it. At times he made attempts to rouse his fathers inclination to travel, but the latter only answered: "From the moment that I took land at Aluk, I do not remember ever having left it."

But whenever they were left behind alone, and all the young men had departed for strange coasts, the son became silent.

When midsummer came, the father could not sleep in the morning at the hour when the sun rose above the country. It was said that it was because he must see it rise above the sea, while the rays, as it were, splintered against icebergs. This sight moved him so deeply that it was impossible for him to leave his dwelling place.

Thus the years passed. But when because of old age the father was unable to go out sealing, and the son had to do it alone, he could no longer resist the temptation to see the world, and so on one fine spring day he said to his father:

"This time I intend to leave my dwelling place and to go and look for new things in strange parts."

For a long time he waited for his father to reply, but the latter remained silent, and as he did not answer the son once more tried to conquer his desire to travel. Only later on, when he could no longer hold his thoughts in check, he determined not to let himself be silenced, until his father had acceded to his request.

Once when he returned from a sealing trip and they sat waiting for the evening to fall upon them, he therefore again began to speak to his father:

"This time it must be; now I want to leave my country and to go north and look for new things in strange parts."

But the father did not answer. Not until the son once more addressed him did he say that now there was no way out.

"But then we will not go too far north, and you must promise me that we shall return to our dwelling place."

The son was very happy, and he eagerly set about making his umiak ready for the journey.

And one morning when the weather was fine, they at last started north. And they travelled far, far, and the farther north, the better the son liked the country.

And they travelled and travelled, and it was the first time that the father had been away from his native place for so long. And the more the summer advanced, the more he saw his country in memory before him. And he was longing for it, and after a while sleep left him, and in the morning, at the time when the sun rose, he could not sleep; for he ever felt im-

pelled to go out in order to see whether the sunrise would be as it was at his native place. But always the mountains blocked the horizon so that it was impossible to see the first peep of the sun <sup>1</sup>.

At first the old man would not speak about it to his son, but when he could no longer bear his yearning he spoke up, saying:

“Let us now return; otherwise I shall die with longing!”

It was hard for the son to return now that the country became more and more beautiful in his sight. And yet he once more shaped his course towards the south, as the words of his father kept on sounding in his ears.

But although they were now on their way home, it was as if the father was only getting worse and worse; for he hardly ever slept, and when they awoke in the morning, he was walking about outside the tent. They travelled and travelled, and at last they came back to their dwelling place.

Quite early, on the following morning, the son awoke at the sound of his father's voice, and the words he spoke were:

“No wonder that it is hard to leave Aluk! Behold, the great sun when it rises above the sea, and its rays break against the icebergs of the horizon.”

And he heard the old man repeatedly utter exclamations of joy, and then everything was quiet. He listened for a long while, but as he heard no sound from his father, who was just outside the tent opening, he got up and pulled aside the tent covering. And lo—there the old man lay on the ground with his face turned towards the sun. And when the son lifted him up, he did not breathe.

Thus the old sealer once more saw the sun in his native place. His joy was so overwhelming that his heart burst. And the son who felt guilty of the death of his father, built a grave for him on the top of the mountain, overlooking the view which he had loved while alive.

And later on it was told that he came to be like his father, nor did he ever leave his dwelling place, but remained at Aluk until the end of his days.

#### THE FAMILY SAGA OF SÍNGAJIK.

(Síngajik has fallen in love with a girl at a strange dwelling place and goes there in order to obtain the consent of her mother to marry the daughter)

When Síngajik awoke on the fourth day after his visit, his longing utterly overcame him, and although the weather was very fine, he did not go out sealing. He waited till the sun was in the midst of the sky, and not until all the other men of his dwelling place had gone out sealing, did he paddle towards the north in order to visit the people at Igdlorpait. He paddled and paddled until he came within sight of the dwelling place, and when he was able to obtain a view of it, he saw that there were no kayaks at home. He

<sup>1</sup> The place they were at is on the west coast of Greenland.

was very pleased, for if the men had been at home, all his time would have been taken up with visits and invitations.

Singajik approached the shore, and immediately three men came down towards him. This rather annoyed him, for he thought that they had probably come in order to ask him to their houses. He had only just got out of his kayak when one of them invited him to go home with him. To this Singajik answered: "I shall first go up to the house I have come to visit, and then I will come to you when I am ready to depart."

At these words they turned their backs upon him and went back to their houses, while Singajik went on by himself. It was only to be expected that there would be no one about the house which he looked for. He went in and again found the old woman, who was engaged in scraping the skin of a saddleback. He had hardly entered when she pushed the skin away from her, sat up on the edge of her platform and asked if she might set out some food before him.

Singajik looked at her, answering: "I had my midday meal just before I came here; I will tell you when I get hungry."

Then she began at once to talk about all sorts of things, and Singajik only waited for her to keep quiet that he might tell her about his errand. Thus he sat waiting patiently, until the sun was so low in the sky as to send its rays through the windows from the west. Then at last she stopped for a moment, so that he was able to put in that it was not without an errand he had come to her this time.

She made no answer to this, and when she again abandoned herself to talk, he interrupted her, saying, in order to bring the matter to a head:

"I know very well that you have no one to help you in this house, excepting only your daughter."

And turning his eyes towards the daughter, who sat behind the mother he went on:

"Nevertheless the reason why I have begun to visit you is that I would like to have your daughter for my wife. But if you will consent to this, then you must know that it is the first time in my life I have met a woman I care about."

These were the words of Singajik. The mother remained silent for a long while, and then she spoke up, saying: "You have spoken rightly, and the exact truth. It is true, I am a woman, but I use her help, almost as if I might be a man, and this is the reason why I have not been willing to part with her, although people living right to the north of us have often asked me to give her to them. Because of her assistance we never suffer want, not even in the heart of winter. But if it be so that she must be given into marriage, I prefer that the man who takes her, should come to live with us in this house. Only if it may be so will I give my consent."

To this Singajik made reply: "If you wish it to be so, then I will make



no objection. To-morrow I will make ready to start, and if the weather is fine, I will be here the day after to-morrow."

Thus the matter was settled, and peace fell upon the mind of Síngajik so that it seemed to him, as if he was in the midst of a large plain.

He then took leave of them and went out. On the way down to his kayak, he met the three men, who again came in order to ask him to their houses; but Síngajik answered that this time his visit would only be of short duration, and then he paddled back.

At Kangeq he immediately set about arranging his affairs, and already on the following day they broke up and went to Igdlorpait. They had no difficulty in taking new land for they merely went right up to the house of the widow.

Thus Síngajik was married, but he did not know as yet what was the name of his wife. On the day following his marriage he paddled out in his kayak, and when he returned in the evening the mother said to her daughter: "Marnilik, take the meat out of the pot and put food before your husband."

Thus Síngajik learnt the name of his wife.

## SONGS AND POEMS.

If the Greenlander feels bound by ancestral tradition in rendering the old tales and legends, he feels much freer when abandoning himself to song. In the poetry of Greenland there is naturally, both as regards form and matter, an inherited tradition, and a great number of songs will recur unchanged in the same form in widely separated localities, but at the same time there is a steady production of new songs, springing from the emotions of the moment.

Song is the natural accompaniment of a number of events in the lives of the Greenlanders. The mother with her babe in the hood of her jacket stands lulling it asleep by the rhythmic movement of her shoulders, while she sings her "petting song", half carressingly and half chattering, a "petting song" which is entirely her own and remains that of her babe and no one else. Spring, sea, hunting and love naturally call forth emotions which find outlet in song. An old East Greenlander Kilime says: »All songs are borne in man, out in the great waste. Now they come to us as crying, deep from the anguish of the heart, now as gay laughter, sprung from the joy which one cannot help feeling at life and the beautiful countries of the world. Though we do not know how, they come with breath, words and tones which are not everyday speech, and they become the property of the person who knows how to sing to others." (Knud Rasmussen, *Myter og Sagn I*).

In East Greenland to sing is called to breathe. Thalbitzer says (*Eskimoiske Digte*, 1920): "How strange it is to find such a rich store of poetry among these bleak mountains, such a mental fertility so far away from the

common highway.— — —Listen to this new language from the furthestmost sea, sometimes rather difficult to understand, but for all that so easy to catch by listening; happy and wanton voices, sad and despairing voices, deep and wild sounds like the cries of birds, always filled with the inner consciousness of self, permeated with its own wild beauty.”

At the great festivals an art in singing is displayed, the importance of



Fig. 15. Dance and drum-match in West Greenland. (Hans Egede, 1741).

which it is impossible to overrate. It might be a *dramatic play*, with a drastic imitation of the movements and sounds of this or that animal, or with an interplay of several people. With the beating of drums and the rhythmic movements of the body while dancing, these people are incited to an abandonment, a joy of life which lends brightness to their grey every-day world.

The *singing contest* was a factor of invaluable social and mental value to the Greenlanders. If a quarrel sprang up between two men, which might easily happen, especially when there was a woman in the case, and if the national customs and characteristics made it impossible for them to seek release by giving instantaneous vent to their anger, it often happened that the anger turned inwards and in brooding corroded the soul, thus driving them to madness or murder (cf. the description of the fugitive into the mountains, p. 232). Then the singing contest becomes a safety valve as it were. The minds of the two enemies are occupied for a long time with preparations for this contest, with thinking out the stinging words of abuse they will use, adapting them to a poetic form and practising the most unfailing effect. For such songs were well prepared and were long remembered (fig. 15).

The charms mentioned above, *serratit*, are of pronouncedly religious origin.

As to the form the character of the song is distinctly indicated by the fact that the verses are surrounded by sounds like: *Ijaja-a-ijaja—aje* or *ajaja-aja* or *aja-hoj-ja* or the like exclamations of the nature of refrains.

The strictly poetic form is obtained by means of repetition, the frequent, more or less varied, repetition of the same word, the same thought. This will appear from the examples given. Add to this the rhythm of the manner of delivery, emphasized by the drum, if this instrument is used; and then, finally, the tune which is monotonous, using a scale which only comprises quite few notes, but which produces a certain effect and harmonizes well with the mood to be expressed.

#### THE LITTLE SONG.

(Knud Rasmussen: *Myter og Sagn* III.)

I sing this little song,  
the worn little song of another,  
and I sing it as my own,  
my own dear little song.  
And thus I play  
with this worn song,  
I renew.

(from South Upernivik).



## THE BABE ON MOTHER'S ARM.

(W. Thalbitzer: Eskimoiske Digte.)

(All Eskimo children are born with a blue pigment spot in the skin, generally below the small of the back. This racial characteristic they have in common with the Japanese and several other East-Asiatic peoples).

Little whimpering babe,  
 Little suckling babe  
 nestle against mother.  
 How she burns, how she burns,  
 straddling, she makes warm  
 my arm and my hands.  
 Down there is the black-bluish spot  
 which will never come off  
 however much I lick  
 her tender little loins.  
 How she whimpers, how she begs  
 little troublesome girl of mine.

## THE PTARMIGAN.

(Knud Rasmussen: Myter og Sagn; tune from Thalbitzer,  
 Med. o. G. XXXI. p. 375).

A small ptarmigan sat  
 on the beautiful plain  
 perched on a drift of snow.  
 Red were its eyelids  
 brown was it down its back  
 and between its small posteriors  
 was the dearest little anus.



Fig. 16. Melody of the song of the ptarmigan (W. Thalbitzer).

## SONG TO SPRING.

(Knud Rasmussen: Myter og Sagn I.)

The winter has been long and hard, and seahunting so bad that the people at the dwelling place have been suffering. All are worn out and feeble, and

there are some who believe that they will not be able to sustain life until spring comes with the sun and new life.

Then a man goes out in a kayak along the shore where the first open water has begun to form. Here he comes to a mountain which he ascends in order to see whether there may be holes farther out, where it would be possible to carry on sealing; feeble and faint with hunger he works his way to the top of the mountain, until he discovers a drift of snow which the heat of the sun has begun to loosen from the mountain.

This makes him so happy that he bursts out singing.

Aja-ha, aja-ha  
 I was out in a kayak  
 and went ashore,  
 aja-ha, aja-ha;  
 here I found a drift of snow,  
 and it had begun to melt.  
 Aja-hai-ja, aja-hai-ja.  
 Then I knew it was spring  
 and that we had lived through the winter.  
 Aja-hai-ja, aja-ha.  
 And I was so afraid that my eyes  
 should be far too weak,  
 far too weak  
 to see all the beautiful things.  
 Aja-hai-ja,  
 aja-hai-ja,  
 ajaiha.

#### SIGNAL SONG.

(W. Thalbitzer: Eskimoiske Digte.)

(Signal from a kayak that a bear has been caught. While the kayaker approaches the shore, he sings of his prey; the tones of his song conform to the nature of the prey so that those who stand listening at the dwelling place are able to understand what he is bringing home with him).

(refrain) aajaa, jaajaa jaijaa aaja hraajai.

I sing as best I may  
 I sing of the prey of to-day.  
 Now it comes forth in my poem,  
 I am longing to sing of it,  
 of the meeting up there in the north;  
 we two who met each other,  
 who drove each other northwards,  
 pursuing from all sides

hunting each other up there.  
 I sang my lullaby to him  
 and pacified him, the bear,  
 until he slept soundly.  
 I sing as best I may  
 I sang my lullaby to him.  
 A bear I have brought home from there.

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#### ITTIMANEEJUK'S SONG

when going into the mountains.

So deep a sorrow came upon me,  
 Sorrow settles heavily upon my mind  
 while I am gathering berries on the mountain,  
 so deep a sorrow is coming upon me.  
 My sun rises quickly upon it,  
 sorrow settles heavily on my mind.  
 How the sea down there, right off our village  
 lies quietly and at rest.  
 The dear, great kayak men  
 are going out on it.  
 Sorrow settled heavily upon me,  
 while I gathered berries on the mountain.

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#### THE YEARNING OF THE OLD SEALER.

(Knud Rasmussen: Myter og Sagn I.)

Once upon a time there was an old sealer, who in his youth had owned land at Aputiteq, north of Sermiligaq—where the narwhal passes by in great numbers, yielding exciting and ample hunting.

Himself an old man the great sealer now returns to the dwelling place of his youth, and once more he sees the whales gamboling in the sea, while they pass by in great, heavily breathing flocks.

The old man gazes over the majestic scenery which was his passion when in the prime of life—and in the feeling of impotence which comes with old age his head swims with sorrow that death is now the only thing left to him, and he seizes his drum, singing:

Ijaja— —ijaja, aje,  
 Let me try to get my thought



my great thought,  
at some distance,  
ijaja— —ijaja—aje.

Let mē try to swallow,  
to get away from the throat  
my great sorrow.  
ijaja-a—ijaja—aje.

Let my song  
carry it some distance away from me  
let my song  
breathe it away from my throat,  
let my clumsy little song  
lift my great sorrow  
out of my mind,  
ija-ja—ijaja—aje.

But no, no, no,  
it is impossible  
to tear my pain from my throat,  
it is impossible  
to let loose the weeping which presses,  
ijaja—a—ijaja—aje.

My eyes are tired  
my worn-out eyes  
which never more will follow the narwhal  
when shooting up from the deep  
in order to break the waves of the sea,  
and my muscles will nevermore tremble  
when I seize the harpoon,  
ijaja—a— —ijaja—aje.

Wish that the souls  
of the great sea animals I killed  
would help me to get  
my heavy thoughts to a distance.  
Wish that the memory  
of all my great hunts  
might lift me out of  
the weakness of old age,  
ijaja—a— —ijaja—aje.

Let my breath blow a song  
 of the animals I have caught,  
 of the narwhals  
 when the shoals broke the surface of the sea  
 in foaming breakers off my village.  
 Aputiteq  
 ijaja—a— —ijaja—aje.

The throaty songs of the narwhals  
 sounded through their blowing  
 when they spouted  
 some in deep tones, others in shrill whistling.  
 The narwhals which rested  
 sleepy and dozing, flock by flock  
 in the surface of the sea.  
 Of all this which calls to mind  
 my youth  
 I am singing.  
 And my song breaks from my throat  
 with the breath of my life.

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SINGING CONTEST.

Assailant: Let me split words,  
 small, sharp words  
 like wood I split  
 with an axe.  
 A song from old times  
 A breath from my forefathers  
 A Lethean song for my wife  
 A song which may sink the longing  
 overpowering me.  
 A bold chatterer has taken her away,  
 has tried to make her less,  
 a miserable who loves human flesh  
 a cannibal from time of starvation.

Adversary: Boldness that surprises!  
 Mock anger and courage!  
 A libellous ditty  
 throwing the blame on me!

Fear thou wilt strike into me  
 while careless I expose myself to be killed.  
 Hie—thou singest about my wife  
 who once was thine;  
 then thou wert not nearly so lovable.

While she was alone  
 Thou forgotest to praise her in song,  
 in challenging battle songs.  
 Now she is mine,  
 nor shall she visit false lovers,  
 beautifully singing lovers of women  
 in strange tents.

#### THE GREENLANDERS' METHOD OF COUNTING.

The Greenlanders have a method of counting which is common to all Eskimos and very simple, though sufficient for the small numbers with which they have to reckon, and this also holds good of the numerals. The system of numeration is based upon the fingers or what might be called a fivefold system. The fingers of the hand indicate, in succession, the numerical value. *atauseq* is the thumb which joins the palm like a button, and links up the parts into a unity; the thumb and the first finger are *mardluk*, a word in dualis meaning something like the following; *pingasut*, *sisamat* are 3 and 4. All the five fingers raised are called *tatldlimat* from the word *taleq*, an arm.

When the Greenlanders have to count beyond 5, they have recourse to the other hand, and 6 is called *arfineq*, strictly, on the other hand. Two on the other hand, *arfineq mardluk*, is 7; three on the other hand, *arfineq pingasut*, is 8. The number of 10 is indicated by the word *qulit*, the uppermost, or all the fingers.

Further counting is done by means of the toes. Therefore, 11 is called "on the foot," *isigkaneg*, or "on the lowermost," *arqaneq*, and to these the ordinary units are added. On the other foot *arfersaneq* indicates the number 16. Thus the highest number which can be reckoned is 20, and it is generally indicated as a "whole human being," viz. *inuk nâvdlugo*.

Beyond this only very few are able to indicate numerical quantities. It is not usual to remember the age by the number of "winters," viz. years. A great quantity is as a rule sufficiently expressed by "many," a modification or magnification of this word. But it might be mentioned how many people



a figure comprised, a multiple of 20. It was even possible to fix a definite figure; for instance when a number was expressed by "eight on the fourth man," *viz.* the number of 68.

This method of counting is still used by the Greenlanders, especially in the case of smaller numerical quantities. In the schools and in daily speech the Danish terms are used for high figures.

# ESKIMO ARCHÆOLOGY

BY

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THE archæology of Greenland is still a new branch of science. As early as the beginning of the 19th century the interest of Danish archæologists was, it is true, roused by the remains of antiquity from our northern colony, but it chiefly centred round the old Norse settlements, which fall outside the limits of this chapter; the Eskimo antiquities were a secondary product, which mostly attracted attention as a material for comparison in the study of Danish antiquities. As late as 1833 the National Museum in Copenhagen only possessed 25 specimens, whereas ten years later, when the "Cabinet of American Antiquities" was founded, Greenland was represented by about 250 specimens; the reports of the Royal Society of Northern Antiquarians contain information about these objects<sup>1</sup>, but without any attempt to draw conclusions from them.

In the fifties H. Rink mentioned several old Eskimo dwelling places, especially Sermermiut at Jacobshavn<sup>2</sup> which possessed a variety of objects, and during the following decades the zoologist Japetus Steenstrup, through the agency of the Danish officials in Greenland, caused collections of antiquities to be made and excavations of dwelling places to be undertaken, the first enterprise of this kind in these parts. In this way he brought together considerable material, which a few years ago was incorporated with the National Museum collection; but actual accounts of excavations, if they ever existed, have been lost. To him, the archæology of Greenland was not the principal object any more than to former investigators. His efforts were first and foremost directed towards arriving at a clear understanding of corresponding facts in relation to Danish kitchenmiddens by studies of the manner in which a primitive people dealt with stone and bone. Nevertheless

<sup>1</sup> Antikvar. Annaler, IV pp. 442—43. Nord. Tidsskr. f. Oldk. I, pp. 222—24, II, pp. 341—43, III pp. 223—24. Annaler f. nord. Oldk. 1836—37, pp. 139—41, 1838—39, pp. 254—90. Antikv. Tidsskr. 1843—45, pp. 33, 139—40, 247.

<sup>2</sup> H. Rink: Grönland, geographisk og statistisk beskrevet. Copenhagen 1857. As to Sermermiut, vol. I, part II, pp. 120—21.

these investigations gave rise to the first treatise on a problem connected with Greenland archæology, *viz.* the use of local iron.<sup>1</sup>

These researches, however, only assumed a more regular character, after the foundation (in 1878) of the "Commission for the Direction of Geological and Geographical Investigations in Greenland," when Danish scientists were given the opportunity of going into thorough investigations. In "Meddelelser om Grönland,"<sup>2</sup> the reports published by this commission, we must look for the contributions made by Danish scientists to the archæology of Greenland.

One of the first scientists sent out by the Commission was the geologist K. J. V. Steenstrup, who had before travelled in Greenland. He investigated a considerable number of graves and dwelling places and collected a large body of material. But neither in his case was archæology the principal object; the investigations of graves were chiefly carried on with a view to the collecting of skulls, and very little information is published as to the archæological contents of these graves.<sup>3</sup>

The archæology of Greenland as a science mainly belongs to the present century; not only regarding details, but on many essential points we are still rather wavering, first and foremost because the archæological work in the field, which must constitute its foundation, has not yet been done, the rich material at hand being for the greater part derived from secondary collections. On the "Fifth Thule Expedition" Therkel Mathiassen undertook investigations within the Central Eskimo area. These investigations proved the existence of an extinct Eskimo culture, the "Thule Culture"<sup>4</sup> which has left its impress also in Greenland, it having prevailed at a time when the level of the country was up to 20 m lower than it is at present, and the open waters made the hunting of large sea-mammals possible.

The resources of archæology are few and sparse as compared with what is at the disposal of the ethnographer who wants to penetrate into the culture of a living people. He is able to gather first-hand knowledge, to see the implements in use and, through the natives, to learn about the intellectual phases of life; indeed, he may even draw upon written sources, which are due to the people itself. The archæologist, it is true, may, to a certain extent

<sup>1</sup> Japetus Steenstrup: *Sur l'emploi du fer météorique par les Esquimaux du Groenland* (Congrès d'Anthropologie, Bruxelles 1872. Compte rendu, 1873).

<sup>2</sup> In the following quoted as M. o. G.

<sup>3</sup> M. o. G. vol. V, pp. 21—26 (on the Graves) and vol. IV, pp. 121—22.

<sup>4</sup> Therkel Mathiassen: *Preliminary Reports of the Fifth Thule Expedition*. Archæology XXI Congrès International des Americanistes Göteborg . . . pp. 205 ff.

Since the above was written these investigations have appeared in their final form "Archæology of the Central Eskimos," quoted as Math. Although dealing with the Central Eskimos this work, based upon thorough and minute studies, constantly glances at conditions in Greenland, and so it has been unavoidable repeatedly to pay regard to it in the present article. I therefore have had to take up my work afresh and make additions and quotations, especially in the section on antiquities. On the other hand, time and space have not permitted me to make full use of it, and so this article has become somewhat unequal.



make use of the works of older, foreign writers whose descriptions incidentally throw light on the prehistoric age, but his main source is, and always will be, the dead material, *viz.* sites of houses, graves and implements found in the ground.

This is the material from which life in prehistoric Greenland must be constructed, by distinguishing between older and newer types and—which in this connection is still more important—what belongs to the one or the other of the tribes which have gone to make up the present population of Greenland. In order fully to understand the special conditions prevailing in this case, it will be necessary to make a few remarks of a more general nature.

In Europe the stone age ended thousands of years ago, and the glacial period is still far more remote; in Greenland the prehistoric time appears quite near. This country is still in its glacial epoch; its inhabitants live close to the margin of the ice, as did our earliest ancestors, and the stone age has continued up to recent times, in some places having been brought to an end centuries ago, in others not until the days of our fathers or even till our own time.

In spite of this the stone age of Greenland does not cover any long period from an archæological point of view, nor has it reached the same degree of perfection as in Europe. Greenland forms the extreme limit of the extensive Eskimo wanderings towards the east, and whoever wants to study the Eskimo stone age in its most flourishing state should turn to the central regions north of the Continent of America, whereas in Greenland it is already in a state of decline. The fact that the stone artifacts found are, on an average, small is undoubtedly also due to lack of adequate material.

In Greenland, as with the Eskimos generally, the stone age is not followed by a bronze or a copper age; even the Eskimos living near the Coppermine River, who have the material close at hand, have not learned how to cast it, but work it cold, by hammering. This also applies to iron; wherever it was found in Greenland it was used, but without smelting, and as it furthermore in most cases was only found in small pieces, its use was limited to blades and heads inserted into bone or wood. After the arrival of the Europeans, the Greenlanders, as far as metals were concerned, quickly passed to rely entirely on imported goods.

The population of Greenland, amounting to some 14,000 individuals and constituting about two fifths of the total Eskimo world, live at present almost exclusively along the west coast from lat. 60° to 74° N., or the stretch which was colonized by the Danes in the 18th century. North of these parts and divided from them by Melville Bay, which is filled with glaciers and difficult to traverse, live the Polar Greenlanders, a small tribe of about 250

individuals, who were first discovered by John Ross (1818) and then, also after that time, lead an isolated existence, until the Polar explorations and Scotch whaling expeditions of our times brought them again into touch with civilization. On the whole of the east coast there are at present only 600 to 700 inhabitants who, until quite recently, all lived in the Angmagssalik District (about lat.  $66^{\circ}$  N.); but in 1925 a settlement was founded in the uninhabited area round Scoresby Sound, Greenlanders from other parts of the country being moved up there.

This distribution is so unnatural that it cannot, as a matter of course, be the original one. A century ago about 600 individuals had their homes on the stretch between the Angmagssalik District and the south point of Greenland; as to conditions in the north in the 19th century we only know that there were Eskimos on Clavering Island (lat.  $74^{\circ}$  N.) in 1823. The strong depopulation of the southern part of the east coast began about this time, the desire for European products attracting the inhabitants to the settlements of the west coast, and it is probable that the east coast would have become entirely deserted, but for the foundation, in 1894, of the Danish settlement at Angmagssalik. Neither were the inhabitants of the east coast completely isolated from those of the west coast, in the years before the migration towards the west began; in their umiaqs they made long journeys in a southern direction, even from so far-off regions as Angmagssalik.

Living Eskimos have, as mentioned before, not been met with in localities farther north than lat.  $74^{\circ}$  N., but deserted dwelling places and graves testify to their wandering along both coasts as far as lat.  $82^{\circ}$  N. and across the country to the south of Peary Land. The remains of their journeys across the country do not show permanent habitation, and it seems probable that they have only tried to find a way from coast to coast, but on the west coast the now uninhabited Melville Bay has been permanently inhabited, and on the east coast there are winter houses as far north as Sophus Müller Foreland ( $80^{\circ} 49'$ ) and Eskimo Foreland ( $80^{\circ} 26'$ ); on the eastern and particularly the southern coast of Germania Land ( $77^{\circ}$ ) and south of these parts they must, judging from the remains found there, have been in residence for a long time.<sup>1</sup>

The area of Greenland is so large that only the uniform manner of life of the Eskimos and their strong adherence, at any rate to the fundamentals of their inherited material culture, make it possible to deal with it collectively, and then even only in its broad aspects.

The largest archæological material at hand is derived from the west coast, but in these parts thorough researches are in the highest degree lacking, which is all the more regrettable as conditions here are far more complicated than on the east coast. Eskimo wanderings are never undertaken by great

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<sup>1</sup> Chr. Bendix-Thostrup: *Ethnographic Description of the Eskimo Settlements*, and Thomas Thomsen: *Implements and Artefacts of the North-East Greenlanders*. M. o. G. XLIV.

numbers of people at a time; in small parties they have penetrated into the country at the narrow Smith Sound, horde after horde, at different periods and, as it seems, from different parts. The considerable work which is necessary in order to distinguish these special cultures from each other has not yet been done and, for that matter, can hardly be done on the strength of the investigations already made; but there is no doubt that this is the most interesting task awaiting students of Greenland archæology.

In a monograph on the archæology of Greenland<sup>1</sup> by O. Solberg, up to the present the only one of its kind, the stone age of this country is divided into two periods. In the older or the stone age proper, which—owing to the lack of bone objects in these finds—he regards as going back to a very remote antiquity, chalcedony, agate and similar harder stones are employed in the manufacture of instruments for cutting; in the second period slate comes very much to the fore, and spear and harpoon heads and women's knives assume large dimensions and shapes which frequently suggest iron blades. On the strength of this he concludes that the period in question comes after a time, when the Greenlanders had learned the use of iron, possibly from the Norse settlers; but as they had not the proper material, they adapted the new forms to slate. This period Solberg calls the post-stone age (*Nachstein-alter*).

As far as West Greenland is concerned, he demonstrates that whereas the younger forms are found all along the coast the older ones are essentially, and in quantities which testify to long habitation, associated with the northern parts up to a little south of the Arctic circle. Assuming the division of Solberg to be correct, the Eskimos have then for a long time kept to the Arctic part of the west coast, before they penetrated farther south. However, Mathiasen's archæological investigations among the Central Eskimo tribes have proved that the slate types date very far back, and so it is surely not possible to maintain Solberg's principal types; but the careful work contains so many details which will always keep their value, and consequently students beyond doubt will have to consult it also in the future.

Of other contributions to the archæology of West Greenland should be mentioned the works of Morten P. Porsild<sup>2</sup> and Kaj Birket-Smith.<sup>3</sup> The work of Porsild particularly emphasises the technology of the implements, a feature which up to the present has not been sufficiently noticed, and he further deals with several forms not hitherto recorded in literature. As a permanent resident in Greenland he is specially qualified for this work, as far as modern implements are concerned; when, however, dealing with the

<sup>1</sup> *Beiträge zur Vorgeschichte der Osteskimo*. Christiania 1907.

<sup>2</sup> *Studies on the Material Culture of the Eskimo in West Greenland* (M. o. G. LI).

<sup>3</sup> *Foreløbigt Bidrag til Kap Farvel Distrikternes Kulturhistorie* (M. o. G. LIII) and *Ethnography of the Egedesminde District* (M. o. G. LXVI). The scope of the latter work is wider than indicated by the title.



archæological forms he is somewhat hindered by not having had access to the large material found at the museums, this being an almost indispensable condition for this study.

On the part of Sweden the artifacts of a single group have been dealt with in a monograph,<sup>1</sup> and A. E. Nordenskiöld who personally has undertaken researches gives the results of these in the account of his journey<sup>2</sup>.

From the southern part of the east coast practically no archæological material is available<sup>3</sup>; from Angmagssalik the material collected is by no means large, and besides it has not been dealt with scientifically;<sup>4</sup> for the northern part there are, on the other hand, ample literary records, based upon the comparatively many expeditions, *viz.* those of G. Amdrup to the coast between Angmagssalik and Scoresby Sound,<sup>5</sup> of C. Ryder to Scoresby Sound,<sup>6</sup> of the Swedish explorer A. G. Nathorst to King Oscar Fiord,<sup>7</sup> of the Second German Polar Expedition to the region round Franz Joseph Fiord,<sup>8</sup> and of the "Danmark" Expedition to the regions farther north.<sup>9</sup>

Smaller contributions will not be mentioned here; but they will be quoted whenever they are made use of. It will appear that the literature on the subject is still defective and very unequal as regards the area covered, and the material is not so large as to permit the drawing of far-reaching universal conclusions.

## GRAVES

The graves were always built above ground, which is natural in a country, where it is often difficult to find earth of sufficient depth to dig a grave, and even where these conditions are present, it is for the greater part of the year impossible to dig owing to frost and snow.

The graves generally consist of a stone-set coffin with large flat stones forming the sides and the cover, and with the natural rock as a foundation.

<sup>1</sup> Gust. Swenander: Harpun-Kastspil och Lanspetsor från Väst Grönland (Kungl. Svenska Vetenskapsakademiens Handlingar vol. 40. No. 3, 1906.

<sup>2</sup> Den andra Dicksonska Expedition til Grönland, Stockholm 1885.

<sup>3</sup> Graah brought home only two dolls (W. A. Graah: Undersøgelsesrejse til Østkysten af Grönland, Copenhagen 1832. Pl. VIII); he mentions *passim* remains of an old habitation.

<sup>4</sup> However, Gustav Holm: Ethnological Sketch of the Angmagssalik Eskimo (M. o. G. XXXIX) contains much valuable information throwing light on bygone ages.

<sup>5</sup> G. Amdrup: The Former Eskimo Settlements on the East Coast of Greenland and W. Thalbitzer: Ethnological Description of the Amdrup Collection (both in M. o. G. XXVIII).

<sup>6</sup> Om den tidligere eskimoiske Bebyggelse af Scoresby Sund (M. o. G. XVII).

<sup>7</sup> A. G. Nathorst: Två somrar i Norra Ishafvet, vol. II. Stockh. 1901.

<sup>8</sup> Koldewey: Die Zweite deutsche Nordpolarfahrt. Leipzig 1874. (The archæological investigations by Dr. Pansch).

<sup>9</sup> Chr. Bendix Thostrup and Thomas Thomsen (M. o. G. XLIV).

However, in order to save one or two sides, graves were frequently built against a rock or in a fissure in a rock. The shape is most often rectangular, but according to circumstances it may either be polygonal or approach the circular shape. There are no fixed rules for the orientation of graves which is dependent upon local conditions, and the size is equally varying both as regards the grave itself and the slabs of stone employed. K. J. V. Steenstrup has found graves, so small that they barely left room for the body, and others so deep that it has not been possible to touch the bottom with the arms when bending over them. Where the flat stones used for covers have been



Fig. 1. Grave at Snenæs, North-east Greenland (Danmark Expedition).

too small to cover the width of the grave, they are frequently supported by pieces of wood. Steenstrup sets forth the hypothesis, based upon the statements of Greenlanders, that the corpse was carried to the grave on these beams, "a statement which is also supported by the fact that such pieces of wood and antler are often found stuck in here and there between the stones of the graves". As far as I know, this view is not supported by the older literature on the subject, and I am inclined to think that the statement of the Greenlanders has merely been an attempt to explain the presence of these boards; if the body had been carried on them, they would be found everywhere, and this is not the case. The pieces of wood and antler which in certain cases have been thrust into graves, I am inclined to regard as grave-goods, put there in order to supply the dead person with materials, or perhaps rather as a means to procure wood and reindeer for him in the

next life. I have myself seen small pieces of bone sledge shoes stuck in between the stones which were useless unless they could be transformed into a sledge. Such symbolic grave-gifts are known from many other places all over the world, as also the custom that the grave-goods should be "killed" like their owner; in Labrador, for instance, it is customary to make a hole in the bottom of the stone vessels put into a grave.

It is a fixed rule that the stone coffins, on all sides, are surrounded by stones heaped-up to protect them against the onslaughts of bears, wolves and foxes (fig. 1). When covered, it is often difficult to distinguish such a grave from the surroundings, particularly when it is placed at the foot of a wall of rock among tumble-down stones. This is or was formerly the most common type of grave throughout the greater part of the Eskimo area<sup>1</sup>; in Alaska, where there is abundance of wood, wooden coffins are built resting on props. On the southern part of the east coast of Greenland both Graah and Holm have found the custom of giving up the dead to the sea, Holm says: "If, as is doubtless always the case, one of the ancestors has perished in a kayak, the dead man's body is cast into the sea or laid on the sea-shore at low water, in order that it may be swept away at high tide; if there is ice, it is lowered through a hole in the ice . . . Occasionally, at least in former times, the bodies were also buried on the rocks and covered over with loose stones." <sup>2</sup>

The same variety which is met with in the form and orientation of the graves also makes itself felt in the number of bodies and the situation of the grave. In "Efterretninger om Grönland" (p. 49) Poul Egede narrates of the burial, in 1735, of an old woman in the neighbourhood of Godthaab. She was "taken down from the platform and placed upon the floor. After her son and the whole household had bewailed her, she was wrapped up in a new reindeer skin with her feet drawn up under her hamstrings, as it was considered improper for a dead person to lie in an extended posture." Hans Egede<sup>3</sup> also narrates that "after bewailing the dead person the next-of-kin carries him away and buries him in a grave, made up of stones thrown together in a heap, under which they bury him in his best clothes and wrapt up in reindeer and sealskin with his legs bent under his back." Cranz<sup>4</sup> says the same, and so it may evidently be taken for granted that this was the posture of the deceased in the 18th century, at any rate in those parts. As late as within living memory, in the Godthaab region, a dead body was buried, sewed up in skins without a coffin.

However, in the finds hitherto made, the bodies, most frequently, were placed in the grave in a squatting posture, with the knees drawn up to the chest, and there are instances of two dead bodies having thus been sewed

<sup>1</sup> Math., vol. II, p. 130.

<sup>2</sup> M. o. G. XXXIX p. 75.

<sup>3</sup> Det gamle Grönlands nye Perustration. Copenhagen 1741 p. 82.

<sup>4</sup> Historie v. Grönland. 2 Aufl. 1770, vol 1, p. 300.



up into the same skin. Also the extended position occurs, although more rarely, both on the west and the east coast. It will be the task of future investigators to unravel the difference in these burial customs according to time and perhaps to tribe.

As to the number of bodies, Steenstrup mentions one or two as most frequent, four to six as rather common; but in a grave only 1,25 metre in length and half that in width and height he found no less than thirteen skulls of adults and children. Where so many individuals have been buried in such a small space it is evident that the same grave has been used, time after time, through a fairly long period. In this way archæology loses one of the points of support supplied by the single grave, *viz.* that all the grave-goods are contemporaneous and have belonged to one person, a man or a woman.

At later burials it frequently happens that no attention has been paid to bodies formerly disposed of in the same grave. At a grave the contents of which were of sufficiently recent date for the sealskins to be preserved I have, however, myself found objects, which were at least several hundred years old, and were deposited together with skeletal remains, in a small compartment, made outside the end of the grave by tilting a flat stone obliquely against it and tightening it with smaller stones: in this case, at any rate, a certain reverence has been shown for the ancestors.

In a few cases both on the west and the east coast well constructed graves, entirely untouched, have been found, in which there were no skeletal parts. Thus C. Ryder<sup>1</sup> writes of some graves at Qutdlerssuit on the west coast (in about lat.  $73\frac{3}{4}^{\circ}$  N.): "Whereas the Greenlanders rarely show particular care in the construction of their graves, very large and heavy stones had been employed in these, and the external circumference of the graves was so large that we thought they must have contained several corpses. However, on investigating the first grave, it proved that there was only one body lying at full length on the back with the head towards the north. The skeleton which was extraordinarily complete and well preserved was taken home. There were neither weapons nor articles for use, but at one side within the grave a large white glass bead. We then proceeded to investigate the two other graves, but in spite of the care shown in the construction and the manner of closing them there was no trace of any dead body having been deposited therein. Such empty graves are also mentioned by Steenstrup<sup>2</sup> who, however, no more than I, is able to give any suggestion as to the object of these graves."

We should naturally be cautious in concluding from the non-occurrence of skeletal parts that they never have been there, but in the said cases there hardly seems to be any reason for doubt, and it will then be natural to regard such graves as a sort of cenotaph, raised in memory of someone who

<sup>1</sup> M. o. G. VIII, p. 233.

<sup>2</sup> M. o. G. V, p. 24.

has died elsewhere, similar graves being in evidence from many other parts, as, for instance, among the Eskimos of Alaska.<sup>1</sup>

The graves are not placed in the immediate vicinity of the dwelling place but often at a stone slide in the neighbourhood; however, they are frequently situated on a terrace in the slope of a rock, indeed, there are instances of dead bodies having been carried up to heights of 200 m above the seashore, which must have been rather hard work for the chief mourner who, as narrated by Poul Egede, had to carry the body on his back, in a strap tied round its shoulders and hamstrings. The graves may be found singly or in larger groups.

Steenstrup writes: "In conclusion, mention should be made of a mode of burial, employed by the Greenlanders, especially in such cases where all the inhabitants of a house have died, for instance of some infectious disease, *viz.* to let the dead bodies remain in the house and only to smash in the roof. At Igdlorssuit on Ubekjendt Eiland where a plague-like disease in the forties carried away the whole of the population, I have seen such a house in which the dead bodies were still lying."<sup>2</sup> At Ikerasánguaq in the Egedesminde District Birket-Smith<sup>3</sup> found another house of this kind, and on the east coast at Nûalik Amdrup madé a very large find under similar conditions.<sup>4</sup> It is, however, rather doubtful whether this can be considered under the heading of burials; where there is no absolutely certain evidence to the contrary it is quite probable that the houses have been left to themselves and, in the course of time, collapsed, as Amdrup supposes to have been the case at Nûalik.

In isolated cases mention is made of a mode of burial which consists in the dead being buried in caves, but none of these caves have been subjected to investigation.<sup>5</sup>

As grave-goods were used the ornaments and other possessions of the deceased; in the case of a man weapons and instruments, sometimes even a kayak; in that of a woman a lamp, cooking vessels, a knife and the like, while children were given their toys. In the grave itself was often only deposited what belonged to the actual clothing, whereas the implements were placed outside it, the larger ones generally uncovered on the ground, the smaller ones frequently in small compartments, specially made for the purpose. The contents of two women's graves are illustrated by fig. 2. Nos 1—12 derive from one grave, only the stone beads (8) which had been used as a necklace, lay in the grave itself, whereas the remainder, *viz.* the bone bodkins, needlecase, knives with blades of slate were deposited in a small stone-set chamber, 30 cm large, immediately south of the grave; here were

<sup>1</sup> M. o. G. XLIV, pp. 369—70.

<sup>2</sup> M. o. G. V, p. 24.

<sup>3</sup> M. o. G. LXVI, p. 45.

<sup>4</sup> M. o. G. XXVIII p. 303 cf. vol. XXXIX.

<sup>5</sup> This material is, in its entirety, dealt with by Birket-Smith (M. o. G. LXVI, p. 66.)

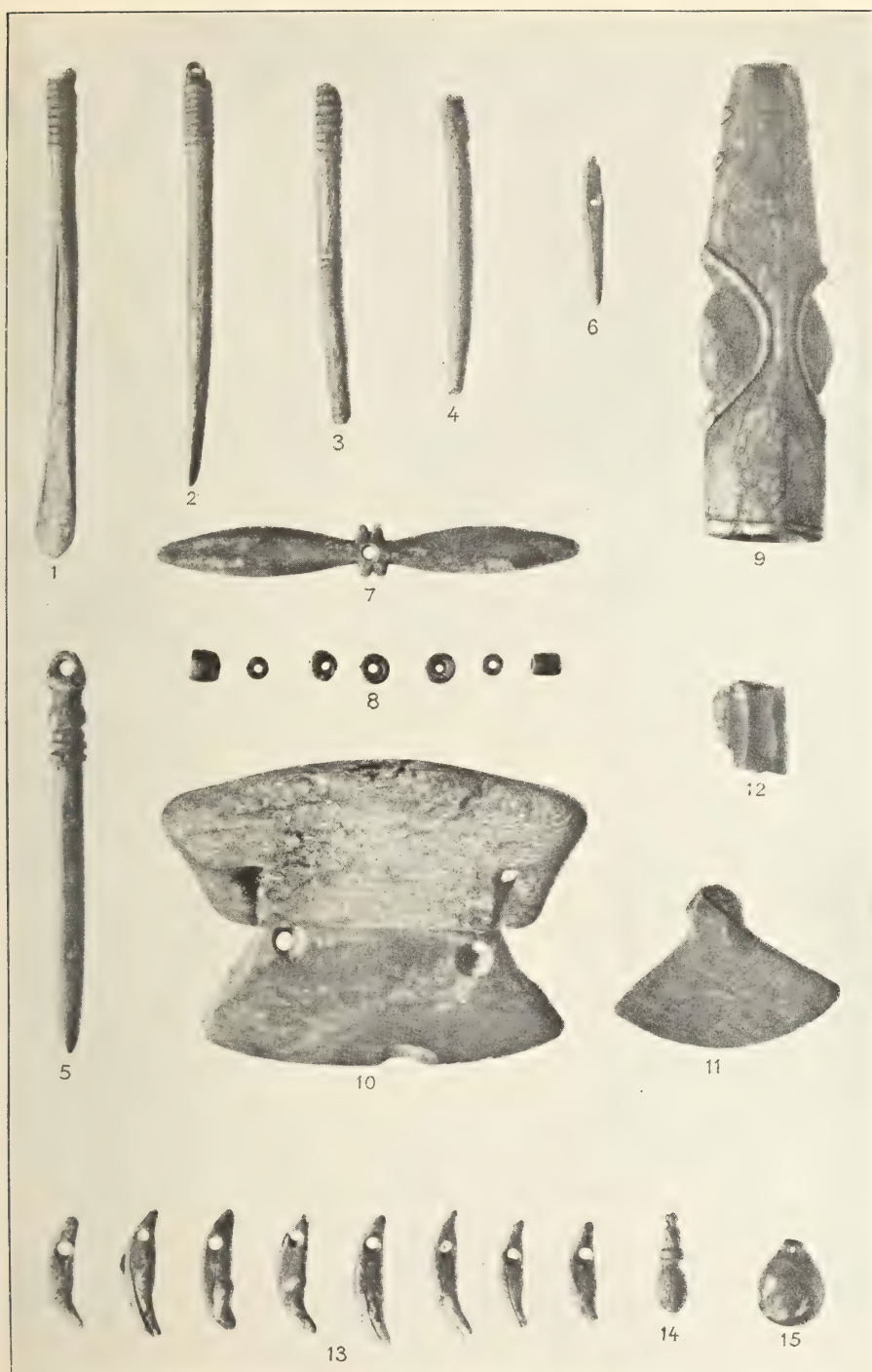


Fig. 2. From two women's graves, North-east Greenland.

1-12. Rype Mountain. 13-15. East shore of Storm Bay.

(Danmark Expedition).



moreover, found a small flint core (12) and two small flint flakes. Nos 13—15 are from another grave: a row of fox' teeth, a stone and a bone bead lay quite close to the head and has thus been used as a necklace. Fig. 3 shows the grave-goods from a man's grave at Snenæs in the same region. Only the miniature harpoon head was placed in the grave itself, having possibly been worn as an amulet. The other harpoon head, three heavy arrow heads made of bone and a piece of the wooden shaft as well as a knife made of slate were placed outside the grave, along its east side. Each of these graves only contained a single body, and the grave-goods therefore, in these cases, only belonged to one person.

As to the purpose of the deposition of these articles Hans Egede writes in the description quoted above: "Near the burying place they lay his utensils, *viz.* his boat, bow, arrows and the like; and if it be a woman her needles, thimbles and the like; not that they believe they stand in need of those things when they are come to the land of souls or in the other world, whither they are retired, but for the aversion they have for those things; lest by refreshing the memory of the deceased, they might renew their grief and sorrow for his loss; for if they should bewail him and weep too much, they think he will endure the more cold where he is."

Cranz repeats, in the main, the description of Egede, but then adds: "Viele stehen auch in den Gedanken, dass sie sich ihres Werkzeuges in der anderen Welt zu ihrer Nahrung bedienen werden, und solche Leute legen zu eines Kindes Grab einen Hunds-Kopf, damit die Seele des Hundes, die überall zu Hause findet, dem unmündigen Kinde den Weg zu dem Lande der Seelen weise. Seitdem aber die Wilden gesehen, dass die Getauften solche beim Grabe niedergelegten Sachen wegnehmen, und ohne sich dadurch der Rache der Gespenster blos zu stellen brauchen, so kommt diese Mitgabe ziemlich ab. Doch brauchen sie der gleichen Sachen nicht selber, sondern verkaufen sie an andere, die davon keine Betrübniß zu besorgen haben."<sup>1</sup>

These statements make very good supplements to the facts which we are able to learn through the medium of archæology. Hans Egede is undoubtedly right in his supposition that the "uncleanness" of the articles belonging to the deceased and the grief at seeing them have played a part, but the additional information given by Cranz as to the use made of them in the other life, which had escaped the attention of Egede, is undoubtedly an equally important motive.

The custom with the dog's head which Cranz might also have read about in the description of Egede has, as far as I know, only in one case been archæologically corroborated; at Qeqertasugssuk on the south-east coast a dog's head has been found in a small separate compartment by a child's grave.<sup>2</sup> Holm adds that "according to what the Greenlanders say, it has

<sup>1</sup> Historie von Grönland vol. I, p. 301.

<sup>2</sup> G. Holm: M. o. G. XXXIX, p. 75, note; Steenstrup: M. o. G. V, p. 23, note.

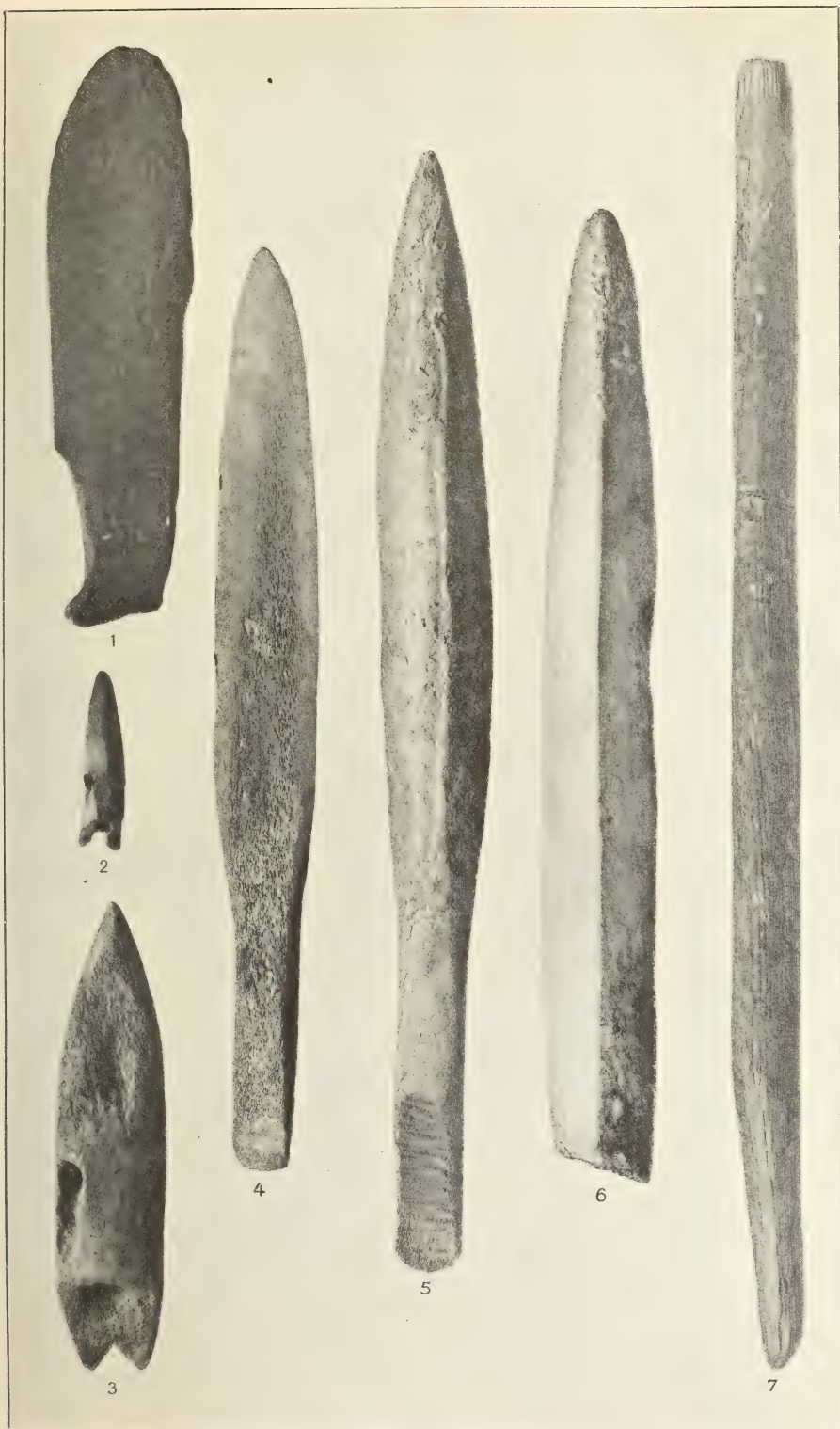


Fig. 3. From a man's grave at Snenæs, North-east Greenland.  
(Danmark Expedition).

never been the rule to place a dog's head in the graves of small children," and Steenstrup has never found it in the course of his numerous investigations of graves.

However, it does not seem to me that there is any reason to doubt the statements of the old writers on this point, even though the custom has never extended to Angmagssalik or rather, at the time of Holm, had passed into oblivion. Both Hans Egede and Cranz say that the dog's head was placed *by* the grave; if it has lain uncovered or badly covered it is only natural that it may have been carried away or become decayed and so may have escaped the attention of the investigators. If this piece of information is correct, it is an interesting example of animals offered in sacrifice.

Both Hans and Poul Egede as well as Cranz and, for Angmagssalik, Gustav Holm mention the rites of purification which the surviving relatives, and particularly those who had carried the dead, were forced to undergo; this, however, falls outside the sphere of archæology proper.

Cranz' account is interesting in so far as it shows that already about 1760 the burial rites were breaking up. This, however, only applies to what was deposited beside the grave and was thus liable to be stolen, but not to what was placed in it. At any rate I found, near Christianshaab, a small gaily coloured, glazed earthenware bowl and a tin spoon, which undoubtedly dated from the 19th century, in a wooden coffin containing the body of a child.

### DWELLING PLACES

In the same manner as the grave-finds place us face to face with death and, through the burial customs, show us a fleeting glimpse of the spiritual phase of existence, thus the finds made at dwelling places give us an impression of the material life. These two groups of finds constitute the most important materials of the archæologist, as supplying evidence of contemporaneity and mutual connection, that is between the number of articles found in a grave, provided only one person has been buried in it, or in a house ruin or the site of a tent; in this manner they will also, indirectly, furnish the basis of a chronological division.

At the dwelling places it is even at times possible to trace the chronology directly from the individual finds, *viz.* where a place has been inhabited for such a long time that later houses have been built on the old sites, which have become hidden under layers, deposited in the course of time by refuse and vegetation. This is, for instance, the case at Sermermiut at Jacobshavn, where deposits are found up to 2½ m in thickness. However, not much has been learnt in this manner, as the frost prevents digging to any great depth, and so it will be necessary to carry on investigations for several years, peeling off layer after layer until the oldest habitation is reached.



Another clue, at any rate for a relative chronology, is supplied by the geological conditions. It may be presumed that—in former times as to-day—the Eskimos who obtained their livelihood from the sea have lived so close down at it as is at all possible; thus, if an old dwelling place is found a couple of metres above the level of the sea or at some distance from the present coast line, one may conclude that it is older than others situated at a lower level. If, further, the rate of the rise of the country is known, it will be possible to establish an almost absolute chronology. In Central Eskimo regions where the country has undergone a rather considerable rise, this method has been applied, with success, on the Fifth Thule Expedition; in Greenland the conditions attaching to the rise are not much known; towards the south the country rather seems to have subsided, and in such localities the oldest dwelling places will have been washed away by the sea or lie hidden under the water off the coast. Such conditions are known from the southern parts of Denmark where finds from the stone age are brought to light through dredging.

With a nomadic people like the Eskimos, the term of dwelling place must be taken in a much less stable sense than we are wont to take it. Not only do the Greenlanders leave their dwelling place in spring to move into tents in other localities according to the season; but, at any rate in certain regions, it has not always been the custom to return to the same winter dwelling place, and one Polar Eskimo, for instance, in the present century reckoned his age by mentioning all the places in which he had lived. Then other people move into the deserted houses, which have been thoroughly ventilated in the course of the summer, because the former occupants, before leaving, pulled off the roof or part of it; but in more civilized regions this custom, so hygienic in effect, has unfortunately been abandoned. The word dwelling place is here taken in the widest possible sense, and not only comprises the winter dwellings, but also the tent borders and more casually built shelters, which have been run up in the course of hunting expeditions.

The winter dwelling places yield the richest archæological material in the shape of articles, partly found in the houses themselves and partly in the refuse heaps which have accumulated outside them and given rise to a more profuse vegetation, the existence of which is frequently the clue leading to the discovery of the house site.

Nowadays the Greenlanders living south of Melville Bay and on the east coast—with the exception of those who have adopted the European manner of building—live in rectangular houses, built of stones and sods with vertical walls, flat or nearly flat roofs, supported by a roof beam with cross rafters; <sup>1</sup> the entrance consists of a passage at a somewhat lower level than the

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<sup>1</sup> At any rate in the large houses on the east coast it was necessary to support the roof beam with props standing along the front edge of the platform, which occupies the back part of the house.

house, and, except in a few isolated cases, opening on to one of the long sides.

In West Greenland the house is nowadays only meant to accommodate one family; at Angmagssalik, on the other hand, it is the custom for many families, frequently for the population of the whole dwelling place, to live in one large communal house. Gustav Holm who in 1884 discovered this tribe, gives the length of the houses as  $7\frac{1}{4}$  to 15 m and the width as  $3\frac{1}{2}$  to 5 m with a passage 6 to 9 m long, which about midway has a height of nearly 1 m.<sup>1</sup>

While the houses on the west coast, as already mentioned, now only accommodate one family,<sup>2</sup> the large communal houses were used also in these parts at the time of Egede, and at least in South Greenland and on the now uninhabited southern part of the east coast, they remained in use during part of the 19th century. Hans Egede mentions seven to eight families living in the same house, and also Cranz gives the length of the house as between  $7\frac{1}{2}$  and  $26\frac{1}{2}$  m, that is considerably larger than the Angmagssalik houses. Graah mentions that in South and South-east Greenland the proportions, as late as about 1830, were as described by Egede and Cranz.<sup>3</sup>

Among the Polar Greenlanders at Smith Sound a different type of house is found: only the front wall from which the house passage comes out is vertical and straight; otherwise the contour is rounded and the sides vaulted. On each side, immediately by the front wall, there is a rounded niche.<sup>4</sup> The shape of the house has been compared to a tortoise with its neck distended (Steensby); it has also been described as pear-shaped (Thalbitzer) or by some as cloverleaf-shaped which seems to me the more adequate comparison, and so it will be used in the following. Otherwise these houses are small and inhabited by one or at most two families.

After this brief summary of present day habitations we will turn our attention to the archæological finds, and it then seems most natural to begin with the northern east coast, which, on account of the many expeditions to these parts, has been subjected to the most careful investigations; in fact, it is the only part of Greenland which has been investigated on strictly

<sup>1</sup> For further particulars regarding the construction the reader is referred to M. o. G. XXXIX (Holm pp. 35 ff. Thalbitzer pp. 352 ff.) Thalbitzer, who visited the district about twenty years after Holm had been there, measured eleven houses, the largest of which was 7.80 by 6.06 m, the smallest 4.90 by 4.30 m. Thus it seems as if the very large houses are no longer the custom.

<sup>2</sup> Birket-Smith (M. o. G. LXVI pp. 148 ff. gives the size of 3—4 m for houses in the Egedesminde District.

<sup>3</sup> Hans Egede: "Perlustration" p. 64. Cranz: *Historie von Grönland*, I, p. 185. Graah: *Undersøgelsesreise til Østkysten af Grönland* pp. 49 and 120.

<sup>4</sup> For further particulars see H. P. Steensby: *Contributions to the Ethnology and Anthropogeography of the Polar Eskimos* (M. o. G. XXXIV, pp. 309 ff.).

archæological lines. Here the three best known Danish expeditions, *viz.* those of Amdrup, Ryder and Mylius-Erichsen (the "Danmark" Expedition) have found no less than about 170 house sites<sup>1</sup>.

On the stretch immediately north of Angmagssalik, as far as North Aputitêq, to where the inhabitants of Angmagssalik are known to have travelled, we find the larger Angmagssalik houses mixed with the more northerly type which is smaller; Amdrup even found such a small house built into one of the larger.

The main house-type of North-east Greenland is—like the one common in the greater part of Greenland—four-sided and with a passage, but the form is somewhat varying and may be rather irregular. The houses are small and, with a few exceptions, the extent in the direction of the passage is greater than in the cross direction.<sup>2</sup> The largest of the houses measured by Amdrup was 3.1 by 3.8 m, the smallest 1.9 by 2.8 m; the largest of the houses mentioned by Ryder was 2.7 by 3.8 m and the smallest 1.6 by 2.5 m. The largest of the houses measured by the "Danmark" Expedition between Cape David Gray (lat. 74° 58' N.) and Seventeen Kilometre Headland (lat. 76° 49' N.) is 4.50 by 4.50 m and the smallest 1.80 m by 1.80 m. There is, consequently, a very great difference in dimensions from the Angmagssalik houses of the present day as well as from the seven ruins of houses measured by Thalbitzer in the Angmagssalik District; the shortest of these was 5.92 by 3.23 m, whereas the largest was as much as 10.94 by 4.05 m.

As at Angmagssalik the houses are generally built on a somewhat sloping plane, so that the passage inclines down towards the shore. The most frequently occurring measure of a passage is 5.7 m in length, but it may of course originally have been longer; the height is 1 to 1.25 m, the width most frequently about 60 cm, but in a few cases this figure may be as low as 40 cm or as high as 1 m. Its course is generally straight, but, according to circumstances, it may take a more or less abrupt bend, and in a few cases it may issue from the house corner, or two houses lying close to one another may have a common passage. Upon the whole, it does not seem as if there has been any standard of building. A number of these houses have half-round niches in the front part of the side walls, which fact by Thalbitzer and Steensby has been taken as evidence of their relationship to the clover-leaf type of the Polar Greenlanders; without entering into the details of this

<sup>1</sup> G. Amdrup: *The former Eskimo Settlements* (M. o. G. XXVIII pp. 28 ff.). C. Ryder: *Om den tidligere eskimoiske Bebyggelse af Scoresby Sund* (M. o. G. XVII, pp. 281 ff.); Chr. Bendix Thstrup: *The Eskimo Settlements and Stone Remains in North-East Greenland* (M. o. G. XLIV, pp. 177 ff.); cf. further A. G. Nathorst: *Två somrar i Norra Ishafvet* vol. II (Stockholm 1900) pp. 338 ff. and Dr. Pansch in Karl Koldewey: *Die zweite deutsche Nordpolarfahrt* (Leipz. 1874) pp. 587 ff. He gives the average size of the houses as 3—3½ m in length and 2 m in breadth.

<sup>2</sup> cf. Amdrup l. c. pp. 315—16, Ryder p. 297 and Thstrup pl. II.



problem, special emphasis must be put on the fact that the North-east Greenland house is angular and must have had vertical walls (fig. 4).

Amdrup warns us, no doubt rightly, against drawing conclusions as to tribal migrations from the size of the houses. Such conclusions must at any rate be confirmed by their contents. For the present we are merely dealing with the form of the house, and so it is only to be mentioned that the communal house of the Angmagssalik type at one time was in use in West Greenland, but was subsequently given up in favour of the smaller house, whereas it was retained by the rather isolated Angmagssalik tribe. North of the travelling route of the Angmagssalik tribe we come across the small house which I call the North-east Greenland type, and the two types overlap in the regions between Angmagssalik and North Aputitêq, the connection being indeed so close that the one type may be built into the other. This circumstance seems to suggest that tribes migrating towards the north have met tribes migrating towards the south, and it remains to be seen whether this fact is confirmed or invalidated by the relics of antiquity. In my opinion these relics are in favour of such a meeting between two tribes, but the investigation of this problem should be deferred to the chapter dealing with the objects themselves.

Thostrup <sup>1</sup> maintains, on the strength of the state of preservation of the house sites found by the "Danmark" Expedition, that the immigration has taken place in three sections, with several centuries between the two first; the first or oldest is supposed to have taken place from the north, the later ones, of which the younger or the third is only represented by a couple of houses, from the south. The correctness of this cannot, however, be proved on archæological grounds. The shape of the houses is the same, and the older houses are situated in groups together with the younger. Nor is this theory in any way confirmed by their contents of objects, but it must be added that only quite few of the twenty-five houses which are supposed to belong to the oldest group have been investigated, and artifacts have only been found in a couple of these. The hypothesis put forth by the writer is that the oldest inhabitants followed the musk-ox in a southern direction, while the later followed the reindeer in its migration towards the north, but this I do not consider sufficiently substantiated by the material at hand. Until further material is obtained one should, I think, be cautious not to build more definite conclusions on it. <sup>2</sup> There is, however, a possibility that a more accurate determination of the difference between the ages of the houses may be arrived at by means of geology, that is by the different

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<sup>1</sup> l. c. pp. 335 ff.

<sup>2</sup> Thus, in my opinion, there is nothing to indicate the occurrence of a Palæoeskimo immigration to North-east Greenland at the time in question; cf. Steensby M. o. G. LIII, pp. 214 ff.

altitude of the houses above the level of the sea.<sup>1</sup> Outside of Greenland this house type—judging by the sketch published—seems to recur on the dwelling place discovered by the Sverdrup Expedition, *viz.* Eskimopolis at Buchanan Strait, Ellesmere Land. Simmons says about the houses: “The interior foundation must have been rectangular in shape, as appeared clearly from the better preserved house sites. It is true that some of the older ruins gave the impression of being rounded or almost entirely round, but this was probably due to the fact that they had store rooms along both long walls,



Fig. 4. Front wall of the ruin of a dwelling on the east coast of Storm Bay. Above the entrance a small compartment. (Danmark Expedition).

and that the contours were gradually levelled.”<sup>2</sup> It seems as if also whale-bone was used in the construction of these houses. Unfortunately only cursory investigations were undertaken of this dwelling place which is so interesting, also by reason of its situation.

As far as West Greenland is concerned, our knowledge of the older habitation is, as already suggested, extremely slight. It has been mentioned

<sup>1</sup> Thostrup (l. c. p. 276) says about the settlement on Snææs: “The winter houses lie in 3 groups, the one 23 metres above the sea, just above an old shore-line, the two others nearer the present line,” and Amdrup (l. c. p. 313) states: “On the little island of Dunholm, which was about 30 metres high, there were on the top of the island not less than seven ruined houses, grouped in a ring about a little water wheel. Down by the shore there lay, besides, a couple of tent rings.”

<sup>2</sup> Herman G. Simmons: *Eskimåernes utbredning ock vandringsvägar* (Ymer 25, årg. 1905, Stockholm 1906) p. 190.

Greenland. II.

that the square communal house, which is still in use at Angmagssalik, was also found on the west coast when, in 1721, Hans Egede arrived in the country; and it was then undoubtedly the only type, for if not, the authors of the 18th century would certainly have mentioned other types. However, another type of house is known from the literature of the 16th and 17th centuries, vaulted and with whale bones as material for the frame. The earliest mention of this occurs in Olaus Magnus who seems to base his description on the accounts of travellers in the 15th century.<sup>1</sup> He compares the form with a ship's keel and accompanies his description with an illustration made in accordance with this idea.<sup>2</sup> It is, however, more than doubtful that the Greenland houses ever had this tunnel shape. The old illustrators made their drawings from the impression which they received from the description, and by this comparison Olaus Magnus beyond a doubt only meant to say that they were vaulted. The travellers of those days were not very skilful writers, and sometimes it is quite difficult to catch their meaning.<sup>3</sup> It is evidently the same house type which was observed by James Hall who, as a pilot, took part in the Danish expedition of 1606. He describes it in the following manner: "They did come to see their winter houses which were builded with Whale's bones, the balkes being of Whale's ribbes, and the tops were covered with earth, and they had certain Vaults or Sellers under the earth foure square, about two yards deep in the ground." In 1652 Danell (in lat. 67° N.) saw some houses deserted by the Greenlanders, which were "dug somewhat in the ground, and then whale's ribs, and some pieces of wood had been laid across, and they were hollow as a large baker's oven and roundish, and there lay earth and sods over them."<sup>4</sup>

This is what the old writers report of the so-called whalebone houses in Greenland.<sup>5</sup> A much clearer description is the one given by Frobisher of

<sup>1</sup> *Historia de gentibus septentrionalibus*. Roma, 1555, p. 69.

<sup>2</sup> Shown by Birket-Smith (*M. o. G. LIVI*, p. 3). The reader is referred to this treatise and another work by the same author: "Foreløbigt Bidrag til Kap Farvel Distrikternes Kulturhistorie (*M. o. G. LIII*) for particulars regarding the house type in Greenland.

<sup>3</sup> For another example of a mistake made in a description of this kind see *M. o. G. XLIV*, p. 367.

<sup>4</sup> Udtog af Christian Lunds Indberetning til Kong Friederich den 3die af 28 Martii, 1664. Copenhagen, 1787 p. 14.

<sup>5</sup> In *M. o. G. LIVI*, p. 145 Birket-Smith also mentions Davis as an authority in this connection and for the Godthaab region, but this must be due to some mistake. The quotation from "Voyages and Works of John Davis" London 1880, p. 36, refers to lat. 64° 15' on the east coast. Here they found "their houses neere the Sea side which were made with pieces of wood on both sides and crossed over with poles and then covered over with earth." The description may, with equal justice, be said to apply to the square house type as to the whalebone house, from which, at any rate, it differs by not being constructed of whalebone. It is hardly possible to attach great importance to this description. On p. 34 the Icelandic house is described almost in the same terms: "Their dwelling houses



such houses, which he found in 1577 to the west of Davis Strait; this description helps us to understand Hall and Danell, and therefore it is given in full:

"Upon the mainlande over against the Countesse's Iland we discovered and behelde to our great marvell, the poor caves and houses of those countrie people which serve them (as it shoulde seem) for their winter dwellings, and are made two fadome under grounde, in compasse rounde, like to an oven, being joyned fast one by another, hauing holes like a Foxe or Conny berrie to keepe and come together. They under-trench these places with gutters, so that the water falling from the hills above them, may slide away without their annoiance: and are seated commonly in the foote of a hil, to shielde them better from the colde winds, having their dore and entrance ever open towards the south. From the ground upward they builde with whales bones, for lacke of timber, which bending one over another are handsomely compacted in the toppe together, and are covered over with seales' skinnnes, whiche instead of tiles fenceth them from the raine. In eache house they have only one roome, having the one halfe of the floure raysed with broad stones a foote higher than ye other, whereon strawing Mosse, they make their nests to sleep in." <sup>1</sup>

There cannot be any doubt that this is the same house type which the Danish expeditions of the 17th century found in Greenland, although there are certain differences. They all dwell on the vaulted shape of the house. Frobisher and Danell compare it to a baker's oven, and say that it is round; Hall uses the term "vault" about the interior, but according to him the ground-plan is rectangular. <sup>2</sup> The Greenland houses are covered with earth and sods, whereas Frobisher mentions seal skins; they possibly were autumn buildings, which when he saw them, on July 30th, were uninhabited. But the point on which Frobisher is particularly in advance of the other observers, is by his description of the interior of the house with the raised sleeping platform, a foot in height and strewed with moss; he has even noticed that the inmates, so to say, had drained the house site.

We have dwelt so long on the accounts of the old writers which are only archæologic in the wider sense of the word, because there are practically no archæological investigations proper. The only contribution made by an ethnographer towards illustrating the old houses of West Greenland is the investigation undertaken by Birket-Smith. On the headland Isua at Julianehaab Bay in South Greenland he saw, in 1912, a group of ruins of which he makes a sketch, <sup>3</sup> but he did not excavate them. The shapes are greatly varying

were made on both sides with stones and wood laid crosse over them, which was covered over with turf of earth, and they are flat on the toppes."

<sup>1</sup> The three voyages of Martin Frobisher, ed. R. Collinson, London 1867, pp. 137—38.

<sup>2</sup> i. e. four square. Birket-Smith (M. o. G. LIVI, p. 145) inserts "feet" which, however, is not to be found neither in "Danish Arctic Expeditions p. 70 nor in "Purchas his Pilgrims," p. 825.

<sup>3</sup> M. o. G. vol. LIII, p. 6.

and irregular; the writer is of opinion that most of them belong to the whalebone houses, whereas some of the houses suggest the communal houses of a more recent period. However, it would be better to delay pronouncing any final judgment, until these houses have been excavated.

There is a relationship in form between the whalebone houses mentioned by Birket-Smith and those observed in 1911 by the Rev. V. C. Frederiksen in several localities in the Sukkertoppen District. His description, which is very short and accompanied by a sketch of the house forms, contains the following passage: "As soon as we landed, it struck us that the ruins were not situated down at the shore, neither did we see bones of seals and such like on the beach, as otherwise in the neighbourhood of the old Greenlandic house ruins." They were "shaped" like a large clover-leaf and bore a striking resemblance to the houses at Cape York, which I remembered from the careful descriptions and drawings made by Dr. Steensby in *M. o. G.* XXXIV. In a house on Umanak Island we removed the sods with our hands, and just inside the house passage we found a good-sized lamp, a child's lamp as well as a few beads of blue glass or perhaps rather of china." The lamps are both provided with partitions; on account of the beads the writer judged the find not to be older than the whaling period. We are indebted to the Rev. V. C. Frederiksen for having called our attention to this characteristic type of house, but after having once more dealt with the work of Steensby he rather goes back on his hypothesis of the clover-leaf house. I agree with Birket-Smith in his supposition that they are survivals of the whalebone house, and that an excavation on scientific lines would be desirable.

In this connection mention should be made of the house ruins found by the Rev. H. C. Rossen in the Upernivik District and explained by him as old Norse ruins;<sup>1</sup> of these P. Freuchen<sup>2</sup> writes: "We are here dealing with a purely Eskimo dwelling place with exactly the same kind of houses as those we use in the Cape York District . . . which I myself have lived in many times and have helped to build . . ."

Apart from this, investigations have, as far as I know, only been undertaken in rectangular houses.<sup>3</sup>

The chief result is then that the clover-leaf type occurs among the Polar Eskimos in the Cape York District, the same type which, according to Freuchen, has also existed in the Upernivik District. Farther south on the west coast the oldest house type known which, however, is only recorded as far back as the 15th or 16th century, is the whalebone house in a more or less modified shape. In the 18th century we have the large rectangular

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<sup>1</sup> Grønlandske Selskabs Aarsskrift, 1918, pp. 65 ff.

<sup>2</sup> *l. c.* 1919, p. 48.

<sup>3</sup> As, for instance, Birket-Smith in Egedesminde District *M. o. G.* LIVI, pp. 44 ff.

communal house, which type has spread also along the southern part of the east coast as far as between Angmagssalik and Scoresby Sound; it has remained in use at isolated Angmagssalik, but on the west coast it was reduced in dimensions at the beginning of the 19th century. In the northern part of the east coast we have, finally, the small rectangular North-east Greenland type, which generally has its greatest length in the direction of the passage.

A more detailed treatment of the development of the house types in relation to one another cannot be given here, and for fuller particulars the reader is referred to "Archæology of the Central Eskimos" by Therkel Mathiassen,<sup>1</sup> who gives the most recent investigations on this point.

In addition to the permanent houses, mention must still be made of the snow-house, the cupola-shaped structure made of large square blocks of snow. With the Central Eskimos, this structure has entirely supplanted the permanent winter house. In Greenland the snow-house is now only used by the Polar Eskimos and only when travelling or when making longer stays on hunting trips outside the dwelling place in winter;<sup>2</sup> in former times, however, it had a more southerly distribution judging from finds of the snow-knife, *viz.* the bone knife with which the blocks were fashioned (fig. 5). It is found on both coasts as far south as between 69° and 70° lat. N. Although, as has been said above, the snow-house, from its very nature, leaves no archæological traces, it must be mentioned in this connection, as the use of snow-houses supplies a natural explanation of the gap in the finds of winter houses between the most northerly habitations found on the west and east coasts.

The summer tent is as unstable as the snow-house; it is taken down and carried along, but, as contrasted with the snow-house, it leaves its trace by the stones which encircled it. In the absence of proper investigations these tent borders<sup>3</sup> can only be treated regarding North-east Greenland.

But for the very reason that the tent is such a movable feature of Eskimo life, these remains of antiquity are particularly frequent. The "Danmark" Expedition, alone, came across as many as about 275 tent borders<sup>3</sup>, of which upwards of two hundred have been measured. Thostrup gives a general description of these borders, the main points of which description will be quoted here: "The tent-rings were of very different form; oval, circular or square.



Fig. 5. Snow-knife. West-Greenland.  
(National Museum).

<sup>1</sup> II, pp. 132 ff. with reference to the former discussion.

<sup>2</sup> H. P. Steensby: M. o. G. XXXIV, p. 287.

<sup>3</sup> The commonly employed term "tent rings" seems to me inadequate as some of them are square.



The size of the edging stones was very variable in the different tents, and they might be close together or at a distance from one another.”<sup>1</sup> Also the size of the stones may vary greatly, *viz.* “stones a man can lift or thereabout, stones of the size of the head which is the most common and stones the size of a fist or a little more.” The writer is undoubtedly right in saying that the regular stone border indicates the inner margin, while the outer one must always have been scattered somewhat, when the tent was taken down. “In one case (tent-ring 48, Thomas Thomsen’s Næs<sup>2</sup> the ballast for the covering was seen as a more scattered ring of stones lying 25—40 cm outside the edge of closely placed stones. In general, though not always, the stone ring broke off at the place where the doorway has been. At this spot, two parallel rows of stones sometimes ran outwards like a sort of entrance or inwards into the tent. . . . The front edge of the platform might be formed by stones, but just as often no stone edge could be seen and the position of the platform could then not be indicated. In tent-rings with platform edge one can often see that the Eskimos have taken the trouble to level the place inside this much more than the remaining floorplace in front. The edge of the platform consisted in most cases of a row of stones laid across the floorplace from side to side, of the same size and at the same distance from one another as the tent stones. In some very old and broken-down tent-rings it consisted of two rows of flat stones standing on end.”<sup>3</sup> The place between the two rows of stones was filled up with earth and turf, or small rooms in which various things could be kept were formed by means of other stones placed at right angles to the platform edge.”

As was to be expected, the form is generally round or oval approaching the circular; the size is normally 2.50 to 3.50 m, eight of them are 4 m or more, the largest measured cross section being 5.10 m; twenty-five are 2 m or less, four circular ones are as small as 1.25 m. and an oval one 1.10 by 0.90 m. These dimensions might seem too small for human dwellings; however, I have myself seen at Thule an old woman’s tent which on the outside measured 1.7 by 1.1 m.<sup>4</sup> In five cases the round line was broken by a straight row of stones forming the entrance,<sup>5</sup> this being the case with the largest tent found. Tents of this type occur in the same groups as the common forms, and both in the case of small and large tents; thus for instance, the straight front edge of the largest was 3.20 m, while the distance from there to the back wall was 5.10 m.

The square stone borders are more unusual. Ryder found two such at

<sup>1</sup> l. c. p. 192.

<sup>2</sup> Næs = Headland.

<sup>3</sup> The author refers to illustrations; further particulars of individual tent borders are found *passim* in the treatise mentioned.

<sup>4</sup> Cf. Steensby (M. o. G. XXXIV, p. 326.

<sup>5</sup> Thostrup Nos. 199, 455, 477, 660 and 723.

Scoresby Sound, and these he is inclined to regard as indicating a winter house and due to children playing there, all the more as the dimensions are so small, *viz.* 1.75 by 2.20 m. <sup>1</sup> The "Danmark" Expedition found nine such square stone borders, <sup>2</sup> one of which was entirely, and three partly, constructed of large stones "of man's lift". <sup>3</sup> From this the hypothesis that it should be due to the play of children is rendered impossible, although nothing can be said for certain of the object of these stone settings.



Fig. 6. Tent border on the east coast of Storm Bay, North-east Greenland.  
(Danmark Expedition).

In addition to the stone borders mentioned above which, at any rate, for the greater part, must be termed tent borders, the "Danmark" Expedition came across sixty stone borders "often not larger than to give room for one person in a lying position;" Mylius-Erichsen defined these borders as shelters, by which he means an abode for one to two men when on hunting trips. There are transition forms to the tent borders; in a few of them one or two of the walls are built up to a height of 1 m. <sup>4</sup>

It would carry us too far to deal with the many other stone settings found at the dwelling places: meat caches, supports for kayaks and women's boats, fire-places, traps etc. It must, however, be mentioned that in addition to the

<sup>1</sup> M. o. G. XVII, p. 303.

<sup>2</sup> Thostrup l. c. Nos. 41—43, 409, 604, 616, 622, 624, 717.

<sup>3</sup> No 42 cf. 409, 604 and 622.

<sup>4</sup> l. c. p. 196.

ordinary fox traps, *viz.* a small stone-set compartment with a trap door at one end, there are in a few localities on the northeast coast of Greenland large, hollow stone cupolas, which were intended for the same purpose. Near Cape Tobin at Scoresby Sound, Amdrup found two such structures, of which he writes: "In the best preserved of these the upper stone only had fallen down and lay in the interior of the building. . . . In the interior of the cairn there lay a few fragments of bone, probably animal bones." This



Fig. 7. Fox trap at Cape Bismarck, North-east Greenland.  
(Danmark Expedition).

trap has thus evidently operated as was intended, the bait being placed on the upper stone, which gives to the weight of the animal and catches it. It was 1.9 m high, the inside diameter at the bottom being 1.5 m. <sup>1</sup> Thostrup <sup>2</sup> describes a similar structure (fig. 7) from Cape Bismarck (lat. 76° 42' N.); it was 1.25 m high, the interior diameter being 1.70 m; he remarks that on one side some stones could be taken away at the foot without disturbing the structure, and so it was possible to get at the trap. At least four such traps seem to have been found in these regions.

As far as I know, no traps of this kind have been found neither in southern East Greenland nor in West Greenland south of Melville Bay, whereas they

<sup>1</sup> M. o. G. XXVIII, p. 316.

<sup>2</sup> M. o. G. XLIV, p. 234.



occur within the Polar Eskimo area. Knud Rasmussen narrates that he found four such on the Second Thule Expedition at Cape Taney, in lat. 79° N. approximately; he calls them tower traps and says that they are rather common up there. The description he gives of them is as follows:<sup>1</sup> "Tower traps are about 170 cm high and built in the shape of a cairn; the Polar Eskimos call them *uvdlisat* ♂: traps which may be left for several days without anybody attending to them. The fox is caught in the following manner: decayed seals are laid at the bottom of the stone cairn, which is hollow and built in such a manner as to be spacious below and very narrow at the top. The pit is covered with willow branches which are smeared with blood so as not to rouse the suspicion of the fox. When a fox leaps into the trap, it cannot get up again, and thus several foxes may come together in the trap in the course of a few days."

These traps form a connecting link between the cultures of the northern parts of both coasts. I am inclined to think that a closer investigation of the most northerly part of the west coast would yield a greater number of common features; the older house type there is still doubtful.<sup>2</sup>

## ARTIFACTS

### MATERIALS AND THEIR TREATMENT

Before iron came into use, stone was employed as a material for making edge tools, partly harder species of stone, principally chalcedony, and several varieties of quartz, and partly softer materials such as slate, especially clay-slate.

The substitutes which generally take the place of the excellent flint of the Scandinavian stone age are greatly inferior as a material; they cannot be fashioned into implements of the considerable size and elegant workmanship which we find in the Scandinavian countries; ground or polished implements made of these stones have hitherto not been found in Greenland.

The blocks from which the flakes are split were generally very small in Greenland. In the flake it was naturally, as elsewhere, the sharp edge which made it valuable, but at the present stage of Greenland archæology nothing is known of the exact use made of these diminutive pieces.<sup>3</sup>

<sup>1</sup> Grønland langs Polhavet, p. 123. A drawing with measurements is to be found on p. 191 and an Eskimo drawing on p. 189.

<sup>2</sup> cf. the illustrations of house ruins l. c. p. 198; however, they were measured at an unfavorable time of the year on a sledge trip and have not been investigated.

<sup>3</sup> Porsild (M. o. G. vol. LI, p. 193) states that "tiny knives of rock crystal" according to tradition are said to have been used "for cutting boils;" but one should really hesitate to build on the modern traditions as to the stone age of the country and its methods. On p. 196, fig. 41 in the same work the author shows four knife handles into which, "according



Fig. 8. Implement  
for the fashioning  
of stone objects.  
(National Museum)

The fashioning of stone implements has undoubtedly taken place in the same manner as elsewhere: after being roughly hewn with a stone, they were shaped by pressure processes, the rounded end of a bone implement being applied to the edge of the tool under preparation, chipping off fine flakes. In the Scandinavian stone age the butt end of an antler was used for this process; the western Eskimos and certain North-American Indian tribes use the rounded end of a short piece of bone, lashed to a handle made of wood or bone.<sup>1</sup> Fig. 8, in my opinion, is to be explained as an implement of this kind. Its point which projects 4.5 cm is made of antler and attached to the wooden handle by baleen; the total length is 28.2 cm. If this supposition be correct it is the only implement of this kind which has hitherto been found in Greenland.<sup>2</sup>

The slate was chipped into flakes of a suitable thickness, which in their turn were given the shape required for the article in question,<sup>3</sup> after which the preparatory product, or rather the edge, was generally ground on a whetstone.

Consequently, the finds frequently contain small whetstones of slate; in North-east Greenland, these often have rounded edges and incisions at the ends, as a rest for the fingers, or a hole for suspension.<sup>4</sup> This seems to be a local form, which has developed under the isolated conditions; the whetstones of the west coast are generally quite roughly shaped. While these have certainly followed their owner as implements in daily use for the sharpening of his weapons and knives, there are others of a harder material,

which have presumably served as tools in the rougher process of fashioning.<sup>5</sup>

to the directions of a Greenlander" he has inserted stone blades; fig. 41 E represents an agate flake. I am, however, inclined to regard this theory as rather doubtful, at any rate until absolutely authenticated finds have been made containing flakes inserted in this manner; as far as I know, there is from the entire Eskimo area no example of anything of this kind; wherever stone edges have been found in the knives, their appearance is quite different from what has been described by Porsild (cf. Boas: *Esk. of Baffinland*, *Bulletin of the Amer. Mus. of Nat. Hist.* vol. XV. p. 384, fig. 178).

<sup>1</sup> Wilson: *Arrowpoints etc.* (Rep. of U. S. Nat. Mus. for 1897) pp. 881—82, figs. 68—74.

<sup>2</sup> No. L 5798 (National Museum). It was found by the present writer when investigating the dwelling place at Sermermiut at Jacobshavn, West Greenland; it lay about 30 cm from the bottom of the layer of refuse which stands out against the slope facing the bay, and in this place was 2½ m deep.

<sup>3</sup> Thomsen, *M. o. G.* XLIV, pl. XIV, 12.

<sup>4</sup> *I. c.* p. 434 pl. XXII, 1—11; Ryder *M. o. G.* XVII, p. 332.

<sup>5</sup> *M. o. G.* XLIV, pl. XXII, 12—13.

Before the saw was known, bone and antler was divided by drilling one hole beside the other on the intended plane of fracture, after which the piece was broken in two; finds of material, which in this way has been divided by drilling, are of extremely frequent occurrence.<sup>1</sup> The bow-drill was, in the Eskimo area, already known in the oldest finds of the Thule culture, the Naujan find, and probably followed the oldest immigrants to Greenland; in any case, there is no evidence of a period where it has not been in use



Fig. 9. Stone implements from West Greenland. (National Museum, Copenhagen).

there.<sup>2</sup> The points which were as a rule rather flat, as on fig. 9.<sub>2</sub>, but might also be quite pointed (fig. 9.<sub>3</sub>) were generally made of various kinds of slate which were ground on the planes. Bone points occur in a few cases.<sup>3</sup>

The drill was, however, in some cases turned by hand without the bow; this, for instance, I take to be the case with a specimen found in North-east Greenland with points of different thickness at either end.<sup>4</sup> This, too, is known from the Thule period.<sup>5</sup>

<sup>1</sup> Ryder, p. 324, fig. 23.

<sup>2</sup> According to Jenness' "A New Culture in Hudson Bay" the bow-drill is not found in the Cape Dorset culture, where the hollow in the rear part of the harpoon was cut out with a knife. Mathiassen, however, proves that, there too, its use may be traced in certain cases. (Math. II, p. 79 ff.).

<sup>3</sup> M. o. G. XLIV, pl. XIV, 7.

<sup>4</sup> l. c., pl. XIV, 20.

<sup>5</sup> Math, I, pl. 63, 13.



Mathiassen is of opinion that these specimens were not hand-drills,<sup>1</sup> but employed in shafts with the one or the other point turned out as required, a theory which I consider rather doubtful. It is true that such an arrangement is possible in our days with implements made of steel, for instance screw-drivers, but with slate as a material I consider it impracticable. The West Greenland implements represented by Solberg on pl. VI, 22—23 must certainly also be explained as hand-drills, as is maintained by Mathiassen.

#### A D Z E S

The old Greenland axe is, like the Eskimo axe generally, of the transverse or the adze type, the direction of the adze lying at right angles to the handle.



Fig. 10. Stone adze from the Ūmánaq District, West Greenland. (National Museum, Copenhagen).

The blade is generally short and inserted into a piece of antler which has been made fast to the shaft by lashing round it or through horizontal or vertical holes made in it; a complete specimen of this type is shown on fig. 10.<sup>2</sup> This implement occurs in finds, both from West Greenland<sup>3</sup> and North-east Greenland.<sup>4</sup> However, also long blades of adzes occur, made of stone and meant to be attached directly to the haft without a middle piece, generally thick,<sup>5</sup> but sometimes thin as on fig. 9.<sub>1</sub> (On the illustration the edge turns upwards). We only possess two stone blades of adzes from Angmagssalik, but systematic excavations will, beyond doubt, increase the material also from there. The adze is amply represented in the oldest finds of the Thule period at Naujan.<sup>6</sup>

<sup>1</sup> Math. II, p. 79.

<sup>2</sup> National Museum No L 7217, found at a grave near Equaliut in Ūmánaq Fiord, and presented by Alfr. Berthelsen, District Physician at Umanaq.

<sup>3</sup> Birket-Smith, *M. o. G. LIVI*, p. 84, fig. 45; Solberg p. 48 ff.

<sup>4</sup> Ryder p. 325, fig. 24 a—c; d is a parallel from Point Barrow.

<sup>5</sup> Solberg pl. 8.

<sup>6</sup> cf. Math. I, pl. 20, 1—10 as well as the general treatment of the Eskimo axe. II, pp. 25 ff.

## MEN'S KNIVES

The men's knives are used for various purposes, such as whittling, flensing, and for cutting food, and their shape varies according to their use; here they will, however, be dealt with collectively; only in very rare cases handle and blade are found together, and so classification becomes very difficult.

The Canadian Thule culture comprises knives, the blades of which are made of hard stones and inserted into a groove in the side (or sides) or in the end of the handle. The knives may be single or double-edged; there are often several stone blades placed with small intervals along the edge of the implement.<sup>1</sup> In Greenland such knives with the stone edges preserved have hitherto not been found; knives with grooves for blades are of frequent occurrence, but wherever the blade is preserved, it has always been made of iron. This iron, however, was generally not imported from Europe, but was found in the country itself, either meteoric iron, which as late as at the time of John Ross was used by the Polar Greenlanders, or telluric iron, which is found in small ball-shaped portions in basalt. The geologist K. J. V. Steenstrup, in a grave at Eqaluit at Umánaq Fiord, came across several balls of this kind, deposited as material for knives.<sup>2</sup>

These small iron pieces or lamellæ are constantly overlapping, and Japetus Steenstrup is beyond doubt right in his supposition that this is a survival of the shark's tooth knife, which has also been found in Greenland, and which consists of the lower jaw of the shark, with the overlapping teeth in it to serve as an edge. As the result of this overlapping, the Greenland knife generally has a continuous groove, unlike the stone-edged knives of the Thule culture which had several round slots with spaces between them. There are, however, also knives with more than one slot, and it is possible that these may have been provided with stone edges; in West Greenland these knives follow the basalt area. From North-east Greenland two specimens are known, fig. 11, both of them found by the "Danmark" Expedition at Renskæret (lat. 76° 41' N.).<sup>3</sup>

In North-east Greenland the slate knife is indisput-



Fig. 11. North-east Greenland knives. (National Museum, Copenhagen).

<sup>1</sup> Boas: *Esk. of Baff.* p. 384, fig. 178. Mathiassen's general treatment of the knives, II, p. 68 with reference to illustrations.

<sup>2</sup> M. o. G. V, p. 23; cf. Japetus Steenstrup: *Sur l'emploi du fer météorique*, quoted before.

<sup>3</sup> Thomsen. M. o. G. XLIV, pp. 429 ff.

ably the prevailing form of knife. Blade and shafts are generally made of one piece (fig. 3.<sub>1</sub>); in other cases the blade is calculated to be inserted into a handle of bone or wood, or reinforced by a wooden rail on each side.<sup>1</sup> The size varies, ranging from quite small to very large ones.<sup>2</sup> Slate-knives are also found at Angmagssalik and in West Greenland (fig. 9.<sub>13</sub>); however, here they are not so frequent as in North-east Greenland and neither obtain the size nor the elegant shape of the North-east Greenland knife.<sup>3</sup>

When the Angmagssalik tribe was discovered, in 1884, Holm brought home hafted knives, the stone blades of which were inserted into the end of the haft; older people still remembered that their fathers had used knives of this kind, and in some places they were kept as mementos.<sup>4</sup> With this type must certainly also be classed several of the single and double-edged stone blades which are shown on fig. 9 and frequently occur in the finds from the dwelling places of the west coast.<sup>5</sup>

#### WOMEN'S KNIVES

Solberg in his pioneer work on the archæology of the eastern Eskimos, so frequently quoted here, regards the *ulo* in its well-known oldest form, with a blade of slate inserted into a haft or grip of bone or wood, as belonging to the post-stone age which was influenced from Europe.

As its possible predecessor in the stone age proper he mentions some small implements of hard stones, admitting, however, at the same time that they are of much rarer occurrence than one would expect from *ulo* blades.<sup>6</sup> After the most recent excavations at Naujan and the chronological division of the Eskimo stone age, which has been arrived at by means of these, Solberg's theory is no longer tenable, however plausible it looked, judging only by museum specimens. The *ulo* proper occurs in the Thule period,<sup>7</sup> and must then be supposed to occur already in the oldest Greenland finds.

The form of these women's knives with stone blades is, in its main features, like the one shown on fig. 2.<sub>10</sub>, from North-east Greenland. In those regions what was said of the men's knives also holds good of the women's knives, *viz.* that the blades are generally more elegant, thinner, and varying

<sup>1</sup> Solberg gives an illustration of such a knife, pl. 9. 6; cf. otherwise M. o. G. XLIV, pp. 424—28.

<sup>2</sup> The knife pictured by Solberg on pl. 9. 7 is about 28 cm long.

<sup>3</sup> Solberg pl. 4.

<sup>4</sup> Holm. M. o. G. XXXIX p. 40 cf. illustration on p. 496, fig. 204.

<sup>5</sup> cf. Solberg, pl. 3.

<sup>6</sup> Solberg, p. 44.

<sup>7</sup> Math. II, pp. 84 ff; I, pl. 23—24, 19, 12—17 and several other places. Pl. 19. 11 shows a specimen which is evidently related to Solbergs older *ulo* blades.



greatly in size, ranging from small blades as fig. 2.<sub>11</sub> to very large ones,<sup>1</sup> and they are frequently made in one piece without a handle of a different material.

The woman's knife shown on fig. 12 has, in the main, the same shape as the knife with a slate blade, but grip and blade are made of bone in one piece; in the lower edge there is only a small groove, into which a blade of iron lamellæ is inserted as on the corresponding type of men's knives. Wherever access has been had to European metal, the whole blade has either been replaced by iron, more rarely by copper,<sup>2</sup> or the expensive material has been used in as economic a manner as possible. This may be obtained by fashioning the upper part of the blade out of bone, into which the iron blade is inserted; the piece of bone may then either, as on fig. 12, be made of one piece with the handle, or inserted into or lashed to this, or the upper bone piece of the blade has been replaced by one or two tangs which connect the grip and blade. In West Greenland it is customary to use one tang, at Angmagssalik, however, two tangs; in the Cape York District a transition form is used where two tangs join at the grip.<sup>3</sup> The two tangs are known from one knife with a stone blade which has been found in the most southerly part of North-east Greenland;<sup>4</sup> outside Greenland I only know of one knife with two tangs, from Anderson River;<sup>5</sup> the single-tanged *ulo*, on the other hand, occurs within the Central Eskimo area.<sup>6</sup>



Fig. 12. Ulo with a blade of iron lamellæ from the Umanaq District. (National Museum, Copenhagen).

#### SCRAPERS

Skin scrapers, closely allied to the *ulo* shape, occur in older finds, and the stone blade of the *ulo* is nowadays sometimes used as a scraper.<sup>7</sup> The Central Eskimo scraper with a concave blade which is still in use among the Polar Greenlanders has, as far as I know, not been found in the remaining part of West Greenland, but for North-east Greenland it is represented by

<sup>1</sup> cf. Solberg figs. 46—49, Thomsen. M. o. G. XLIV, p. 440 with references; pl. XXIII and pl. XII, 16—18.

<sup>2</sup> cf. Birket-Smith, M. o. G. LIVI, fig. 62; cf. otherwise p. 93 ff.

<sup>3</sup> The few exceptions from this rule rather serve to corroborate it, and at any rate in my opinion they do not justify Porsild in denying the existence of fixed types (M. o. G. LI, pp. 207 ff.); cf. Mathiassen's treatment on the woman's knife, vol. II, pp. 84 ff.

<sup>4</sup> Thalbitzer, M. o. G. XXVIII, p. 403, fig. 21, and p. 387, fig. 13.

<sup>5</sup> Figured by O. T. Mason: The ulu (Rep. of U. S. Nat. Mus. for 1890), pl. LVI.<sub>1</sub>.

<sup>6</sup> Mason l. c. pl. LIV and LV.

<sup>7</sup> cf. Birket-Smith: M. o. G. LIVI pp. 92 ff.

one specimen, found at Rype Mountain<sup>1</sup>; the scraper for two hands has in a few cases been found in North-east Greenland.<sup>2</sup> Outside Greenland it is known from the west coast of Hudson Bay<sup>3</sup> as well as from the Western Eskimos,<sup>4</sup> though it is unknown at Point Barrow. Outside the Eskimo area it is known among certain Indian tribes, as well as in northern Asia and Lapland.<sup>5</sup>

Scrapers with stone blades, which are meant to be used with one hand are common among the peoples of the stone age. They occurred in our own stone age,<sup>6</sup> and among the western Eskimos they were retained long after stone had been replaced by iron.<sup>7</sup>

In Greenland blades for such scrapers are found both towards the west, where they are among the most frequently occurring antiquities, and towards the east (cf. fig. 13). However, they rarely attain the size of the old Norse

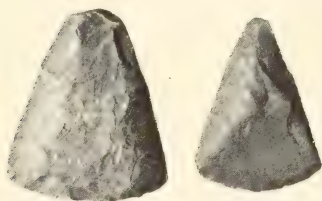


Fig. 13. Scrapers from West Greenland. (National Museum, Copenhagen).

scrapers; among the largest is a specimen from Rype Mountain, North-east Greenland.<sup>8</sup> In West Greenland, on the other hand, they are sometimes as small as 1.5 cm, and one feels inclined to agree with Solberg<sup>9</sup> when he put forth the theory that these were not used in the preparation of skins, but for wood-work and the like.

Solberg also classes the implement shown on fig. 9.<sup>10</sup> with the scrapers, whereas it has formerly been explained as a fishing hook. The greater part of such specimens, figured by Solberg,<sup>10</sup> show beyond dispute that they have not originally been meant for this use; I myself do not consider it impossible that some of the specimens of the more elegant workmanship may have been used as fishing hooks tied to a wooden stick, there being direct evidence that such a piece of bone has been found together with a small stick in such a manner that it must be supposed to have been a fishing hook; but, as we have neither photos nor measurements of the same, the problem for the present must remain unsolved.

<sup>1</sup> M. v. G. XLIV p. 444, fig. 35.

<sup>2</sup> l. c. pl. XXVI, 5.

<sup>3</sup> Boas: *Esk. of Baff.* p. 91, fig. 132.

<sup>4</sup> E. W. Nelson, *The Eskimo about Bering Strait* (Rep. of Bur. of Amer. Ethn. vol. XVIII. pl. L 14 and 16; Mason: *Aboriginal skindressing* (Rep. of U. S. Nat. Mus. for 1889), pl. XXXVI, 5.

<sup>5</sup> Hatt: *Arktiske Skinddragter* (Copenhagen 1914), p. 24.

<sup>6</sup> Sophus Müller: *Ordning af Danmarks Oldsager. Stenalderen* figs. 146—48.

<sup>7</sup> Mason: l. c. pl. LXXXVI—LXXIX; cf. the North-east African specimen, pl. XCIII. 2.

<sup>8</sup> M. o. G. XLIV, fig. 34.

<sup>9</sup> pl. I, cf. pp. 28 ff.

<sup>10</sup> pl. 2.

SMALL IMPLEMENTS USED FOR SEWING

Solberg,<sup>1</sup> no doubt rightly, explains a number of small slate implements—more or less triangular and sharpened along one of the edges—as the precursor of the boot creaser (fig. 9.6, the edge on the illustration turning upwards). Bone implements of a similar type and use as the modern boot creasers are known from West Greenlandic finds<sup>2</sup> as well as from North-east Greenland (fig. 2.1).



Fig. 14. Bone bodkins from West Greenland (National Museum, Copenhagen).

Bodkins frequently occur in Greenlandic finds from women's graves, sometimes in such quantities that it must be presumed that they not merely have been used for practical purposes, but also as ornaments suspended from the belt. There is an unmistakable resemblance between the West Greenland bodkins, fig. 14, and the North-east Greenland ones, fig. 2.2—5 from a woman's grave at Rype Mountain;<sup>3</sup> 2.6 is presumably a kind of needle and 2.7 possibly the clasp of the belt from which the objects were suspended.



Fig. 15. Needle-case from West Greenland. (National Museum, Copenhagen).

The same resemblance which exists between the bodkins from the eastern and western parts also makes itself felt in the needlecase, in its older or winged form; fig. 15 derives from West Greenland, fig. 2.9 from the grave-find at Rype Mountain, North-East Greenland, which has been mentioned above. The needles had been made fast to a narrow strip of skin which was then pulled into the piece of bone; a form related to it is still in use among the Polar Greenlanders. In southern West Greenland the winged needlecase has been replaced by a cylindrical one, but in Angmagssalik no needlecases of any kind are known; there the women at the present time use a fairly large, generally ornamented, piece of skin, into which they stick their needles,<sup>4</sup> and from this a double bone hook is suspended for thread and thimble. These thimble holders are also known from West Greenland<sup>5</sup> and from the southernmost part of North-east Greenland,<sup>6</sup> as well as from the Polar Greenlandic

<sup>1</sup> p. 42, figs. 15—23.

<sup>2</sup> Porsild, M. o. G. LI, p. 214, fig. 48.

<sup>3</sup> As to this grave find see further Thomsen, M. o. G. XLIV, pp. 363 ff., particularly as regards the bodkins and the needle case.

<sup>4</sup> Thalbitzer, M. o. G. XXXIX, p. 521, fig. 249.

<sup>5</sup> Birket-Smith, M. o. G. LXVI, p. 111, figs. 83—85.

<sup>6</sup> Thalbitzer, M. o. G. XXVIII, p. 403, fig. 22.

Greenland. II.



find at the Thule station, from which the Thule culture derives its name.<sup>1</sup> Outside Greenland it also occurs in Alaska,<sup>2</sup> whereas another, the anchor-shaped form, is the prevailing one in the Central regions.<sup>3</sup>

The Eskimo needlecase with its characteristic form and frequently very rich ornamentation has often attracted the attention of ethnographers. Thus Boas wrote a monograph<sup>4</sup> about it, which starts from the Western Eskimo type with special reference to the ornamentation, but also includes comparisons with the other Eskimo areas. Among other things he points to the fact that small knobs of no special importance—two such pairs are shown on fig. 2.<sub>g</sub>—are also found in Alaska, and he is of opinion that the needlecases must have a common prototype in which these knobs played a part. Mathiasen who has found “winged” needlecases included in the Qilalukan find,<sup>5</sup> treats the subject from the supposition that these knobs are based upon the human shape.<sup>6</sup> However, I think that more authenticated material is required from Alaska before the problem can be regarded as solved.

#### APPURTENANCES OF DRESS AND TOILET; FIGURES AND TOYS

The archæological finds hitherto contain nothing in the way of actual



Fig. 16. Necklace from Julianehaab District, West Greenland. (National Museum).



Fig. 17. Bone comb from Rensskæret, North-east Greenland. (National Museum).

dress, but we can form an idea of what it was like about the middle of the 17th century from the picture, frequently mentioned, in the collection of

<sup>1</sup> Math. I, pl. 78. 12.

<sup>2</sup> Math. II, p. 93, fig. 3.

<sup>3</sup> l. c. pp. 97 ff.

<sup>4</sup> Decorative designs of Alaskan needlecases (Proceed. of the U. S. Nat. Mus. vol. XXXIV).

<sup>5</sup> Math. I, pl. 52, 2.

<sup>6</sup> Math. II, pp. 92 ff.

the National Museum, which especially attracts our attention by the high woman's hood.<sup>1</sup>

At an early period Dutch glass beads became a favorite material for ornaments, and they are found most frequently in South Greenland. However, these beads have nearly always been sent in without any attention being paid to the other contents of the graves, and this is very much to be regretted, as they might otherwise have been of importance as a means of dating the finds. Necklaces consisting of perforated teeth of animals are among the ornaments of Eskimo workmanship found on both coasts (fig. 2.<sub>13</sub> and fig. 16). On the other hand, the flat cylindrical black stone beads (fig. 2.<sub>8</sub>), which occur in several finds from North-east Greenland, and the small stone drops (fig. 2.<sub>15</sub>) seem to be peculiar to that part of the country. This also applies to a couple of round plates of mica, which were found by the "Danmark" Ex-

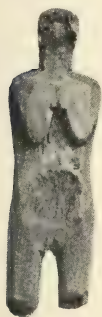


Fig. 18. Wooden doll from Egedesminde District. (National Museum).



Fig. 19. Ivory figures from Cape Tobin (North-east Greenland); bird, float, walrus, whale. (National Museum).

pedition, one of them with the sling preserved,<sup>2</sup> and also some bone plates with pricked ornaments.<sup>3</sup> The Naujan find contains a fragment which greatly reminds one of them; at any rate they have the same ornamentation.<sup>4</sup>

The bone comb is frequently meant to be suspended from the dress, so that it may, to a certain extent, be regarded as an ornament, and great care is shown in the carving. It is found on both coasts and in greatly varying forms. Until the present day only a couple of specimens are known from North-east Greenland; the one, represented on fig. 17 from the "Danmark"

<sup>1</sup> Cf. Birket-Smith, M. o. G. LXVI, pp. 167 ff., the picture being reproduced on p. 194. The other picture (p. 169) from 1724 cannot, on the other hand, be used to form an idea of the dress of that period, as it is hardly painted from nature, but from pieces of apparel in the Chamber of Curiosities, for instance, one of the men beyond doubt wears women's trousers.

<sup>2</sup> M. o. G. XLIV, p. 456.

<sup>3</sup> l. c. pl. XI. 1 and XXV. 19, cf. p. 457 where they are compared with the necklaces of the Sagdlermiut women from Southampton Island.

<sup>4</sup> Math. I, pl. 30.<sub>23</sub>; cf. 76.<sub>2</sub> and II p. 117.

Expedition is plain in shape and rather suggests the modern combs from Angmagssalik; the other, which was brought home by the Amdrup Expedition from Dunholm, is unique in ornamentation and shape.<sup>1</sup> From West Greenland a plain comb has been pictured by Porsild,<sup>2</sup> and the same comb was shown by Birket-Smith<sup>3</sup> together with several other types. It would carry us too far to enter into the abundance of forms, and for further particulars the reader is therefore referred to Mathiasen's treatment of the Eskimo combs.<sup>4</sup>

Neither are we able to give a detailed description



Fig. 20. Ivory bear. Snenæs, North-east Greenland. (National Museum).

of the frequently occurring figures of wood and bone which represent human beings and animals; and for the present we will therefore content ourselves with a few specimens. Fig. 18<sup>5</sup> is a small wooden doll of the kind which are most frequently laid in the graves of children as toys. They are known to be found over the whole of Greenland, and as a rule they present extremely few details, with no indication either of face or arms. The one here figured is distinguished from the ordinary ones in that it has a woman's breasts, but no suggestion of a woman's hair knot, which is frequently the only characteristic indicating sex; the rounded shape of the head which is seen in this figure would otherwise generally be taken as an indication that the figure was a man.<sup>6</sup>

Fig. 19 represents some ivory figures, brought home by the Amdrup Expedition.<sup>7</sup> Figures of animals are often found, both in wood and ivory and of very different artistic value.<sup>8</sup> It is curious that so little skill is generally shown in the representations of the dog, which, as a rule, resembles a pig; it might be imagined that the Greenlanders would more easily have caught the characteristic features of this animal, which is constantly before them. On the other hand, they have a sure grasp of marine mammals and birds, and still more of the bear (fig. 20).



Fig. 21. Wooden sculpture from a grave in the Ūmá-naq District, West Greenland. (National Museum).

<sup>1</sup> Thalbitzer, M. o. G. XXVIII, p. 469, fig. 55.

<sup>2</sup> M. o. G. LI, p. 212.

<sup>3</sup> M. o. G. LXVI, pp. 68, 212 and 214.

<sup>4</sup> Math. II, p. 113.

<sup>5</sup> brought home by Birket-Smith; cf. M. o. G. LXVI, p. 59.

<sup>6</sup> cf. M. o. G. XLIV, pl. XXV, 1—3.

<sup>7</sup> cf. Thalbitzer, M. o. G. XXVIII, p. 478.

<sup>8</sup> cf. for instance M. o. G. XLIV, pp. 459 ff.



Even though the representations of human beings are, as a rule, extremely poor, it happens here as everywhere that an artist, in exceptional cases, produces a work which is far above the average. Such a piece of work is fig. 21. Without changing the given shape of the piece of wood the artist has covered the surface with human masks, thrown about in all directions with a freedom which suggests Japanese art. A counterpart of this figure, from the Angmagssalik District, has been shown by Thalbitzer.<sup>1</sup> It is a "Janus" head, on one side with a typical Eskimo face, on the other with a caricature of a European face, as it is known from the wooden masks. It was found when excavating an old house ruin in Angmagssalik Fiord.<sup>2</sup>

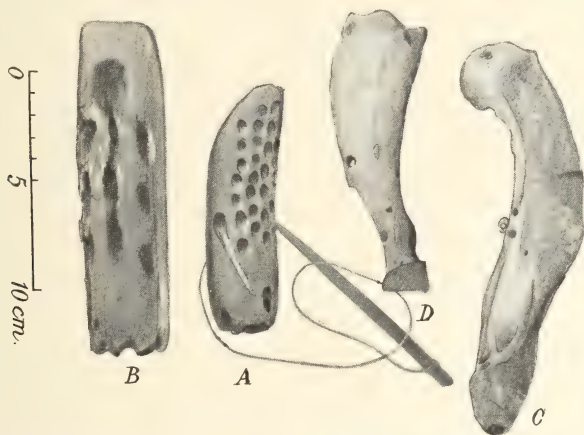


Fig. 22. Ajagaqs from West Greenland. (After Porsild).

The greater part of the Greenland toys are imitations of the implements of adults; of other toys a much used one is the spinning top, which is known from of old within the Eskimo area and also outside Greenland.

A pastime chiefly for adults is the perforated piece of ivory, represented on fig. 22, the *ajagaq*. This toy is still in existence and is rather used as the European game of "cup and ball" or "ring and pin," the object being to catch the *ajagaq* when thrown by means of a bone point, connected with the *ajagaq* by a sinew thread.<sup>3</sup> In West Greenland several forms occur, as appears from the illustration; in North-east Greenland only one specimen has been found, which most nearly approaches the C type.<sup>4</sup> One specimen of the D type was found in the Cape York District.<sup>5</sup> The *ajagaq* game is known from the oldest finds of the Thule culture, and in different forms from the later finds.<sup>6</sup>

<sup>1</sup> M. o. G. XXXIX, p. 637, fig. 356.

<sup>2</sup> From the collection of Mr. Johan Petersen, now in the National Museum.

<sup>3</sup> cf. Porsild, M. o. G. LI, pp. 227 ff.

<sup>4</sup> cf. M. o. G. XLIV, pl. XV, 7, p. 462.

<sup>5</sup> Math. I, p. 299.

<sup>6</sup> Math. II, p. 119.

## HUNTING IMPLEMENTS

Although it is otherwise outside the scope of the present work to enter into details, it is necessary to give a somewhat fuller description of the hunting implements, as they are of such vital importance to the life of the natives. When this subject has been more elaborated, the changes and improvements which these implements have undergone in the course of years, will, beyond doubt, yield one of the best chronological points of support.

Already at the present time it is possible to give some principal features, but, before going further, it will be necessary to say a few words about the terminology used for certain parts of the weapons, as different authors use different terms.

As is well known, there are two forms of kayak harpoons in Greenland, the large and heavy one, the shaft of which terminates in a bone knob (knob harpoon) and a lighter one, terminating in a pair of bone "wings," which help to direct it, in a similar manner as feathers on an arrow. This type has, by some writers, been termed the feather harpoon, by others the winged harpoon. In the present article the latter term will be used, as it agrees with the name employed from of old in Denmark.

In his pioneering monograph on this subject O. T. Mason <sup>1</sup> calls the main parts of the harpoon: head, loose shaft, foreshaft and shaft. There is, however, the drawback to the term "loose shaft" that it can only be used where there is a movable joint between it and the shaft, thus, for instance, not in the case of the ice harpoon; and so later Danish writers have changed it to foreshaft or movable foreshaft. <sup>2</sup> However, as Mason uses this term for another part of the harpoon, we will in the present article use the appellation "fore-piece" for the long bone piece in front of the shaft; it will be used both for kayak harpoons and ice harpoons, as well as for bladder darts and bird darts.

The bone piece on the front part of the shaft which Mason calls foreshaft, is by Mathiassen called "socket piece" and by Birket-Smith "mounting"; in the present article we will use the latter term, *viz.* "shaft mounting," as the term "socket piece" cannot be said to apply to all modern Greenlandic harpoons. For the harpoon head the terminology of Mathiassen will be adopted. <sup>3</sup>

Complete weapons are rarely found at the old graves; as they lay exposed outside the stone settings, the wooden parts are generally decayed, or those or other parts have been taken away; thus already the writers of the 18th

<sup>1</sup> Aboriginal American Harpoon (Rep. of U. S. A. Nat. Mus. for 1900, Washington 1902).

<sup>2</sup> cf. Birket-Smith. M. o. G. LXVI, pp. 296 ff. and Math. I, pp. 31 ff.

<sup>3</sup> It would be desirable if Eskimologists could agree as to a fixed terminology, now that the study of the Eskimos is carried on with so much zeal.

century make mention of the Christian Greenlanders taking away grave-goods.<sup>1</sup>

Under these circumstances it is very fortunate that the collections of the National Museum comprise a number of weapons which were brought home in the 17th and 18th centuries, while they were still in use (fig. 23).<sup>2</sup> Fig. 23a represents a winged harpoon, presumably from the early half of the 18th century. It is only 1.785 m long, and is thus considerably shorter and more slender than the present day type; moreover, the wings are much shorter and broader than nowadays, as appears more clearly from fig. 24. The throwing board deviates from the present day type by having a hole for the finger, not merely notches along the side; also its rear part, which fits into a cavity in the bone piece between the wings, deviates in form. But apart from this the chief parts of the harpoon had already at that time assumed their present form; the shaft mounting had become cap-shaped with a plane forepart, corresponding to a surface in the hind part of the forepiece; in the middle of the forepart there is a small cavity, corresponding to a small peg in the forepiece. In the present day harpoon there is here a difference between West Greenland and Angmagssalik; on the west coast the cavity is now in the forepiece and the peg in the mounting; at Angmagssalik the opposite is the case. It further appears from fig. 23a that—as in the present day harpoon—there are two holes in the forepiece for the connecting strap.

This arrangement with plane surfaces at the jointing and the small peg, which makes it easier to detach the forepiece from the mounting, is a Greenlandic invention, which was in all probability rather new at the time from which the harpoon of fig. 23 dates. In older

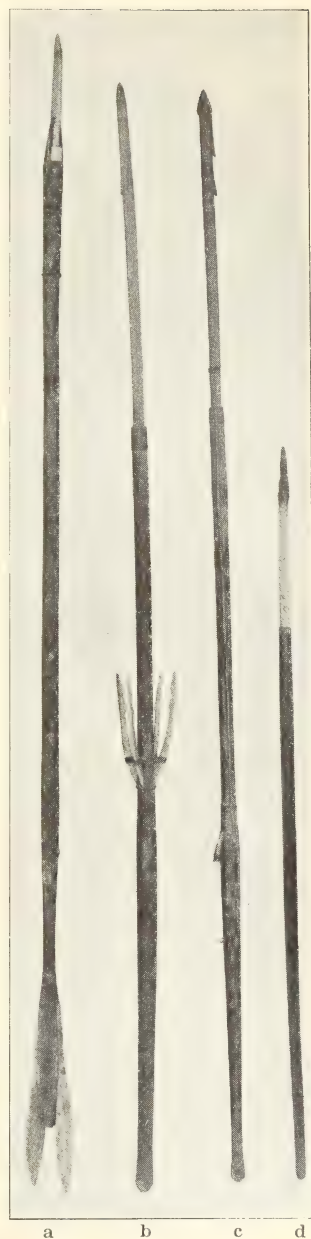


Fig. 23. Hunting implements from the 17th—18th century. (National Museum).

<sup>1</sup> cf. above p. 282.

<sup>2</sup> As to the arrangement of hunting implements at the end of the 18th century, the reader is referred to Otto Fabricius: *Nöjagtig Beskrivelse over alle Grönlændernes Fangere-Redskaber ved Sælhundefangsten* (Det kgl. danske Videnskabernes Selskabs Skrifter for



Greenlandic specimens the rear part of the forepiece is not plane, but conical and fits into a socket in the front part of the mounting, which is not, as in the present type, shallow and cap-shaped, but long and calculated

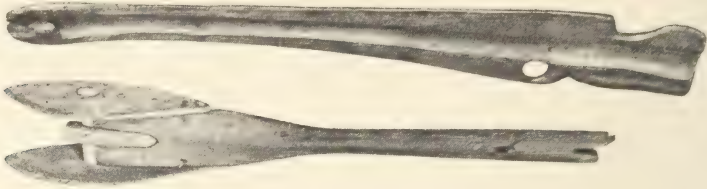


Fig. 24. Rear part of winged harpoon with the appertaining throwing board, from a grave at Agto, Egedesminde District, West Greenland. (National Museum).

to be lashed to the shaft (fig. 25). This form of mounting is found in Greenland on the northern part of the west coast and in North-east Greenland,<sup>1</sup> and so also is the conical termination of the forepiece. The specimen represented in M. o. G. XLIV pl. 15.<sub>2</sub> shows a gradually tapering termination and only one hole for the connecting strap. This is a very old Eskimo type, which already occurs in the oldest finds of the Thule culture, viz. the Naujan find.<sup>2</sup>



Fig. 25. Shaft-mounting from Dunholm, North-east Greenland (Nat. Museum).

The specimen which was also shown on pl. 15.<sub>1</sub> and was probably originally designed for a lance, represents a transition form to the present one; it is provided with two line holes, and the conical point stands out more distinctly from the broader body.

A step nearer the present time are a couple of forepieces from finds at Disko Bay, in West Greenland, which have been represented by Porsild.<sup>3</sup> They have a distinct shoulder round the peg, which is certainly heavier than that of the present time. It is this form which, as already mentioned, has remained unchanged at Angmagssalik, whereas the point in West Greenland has been transferred to the mounting.

Fig. 26 shows a number of forms which harpoon heads may assume in West Greenland. In the present article no detailed description will be given of these forms, but only a few principal features of the relation of the older forms to the Thule culture finds of the Central Eskimo, based upon Mathiassen's investigations.<sup>4</sup>

1807—08, Copenhagen 1810) and *Nøjagtig Beskrivelse over Grønlandernes Landdyr-, Fugle- og Fiskefangst med dertil hørende Redskaber* (ibid. 1809—12, Copenhagen, 1818). These detailed descriptions are of the greatest importance to the ethnography of Greenland, and touch upon its archæology as regards weapons—such as bow and arrow—which are no longer in existence.

<sup>1</sup> cf. M. o. G. vol. XLIV, pl. XVI, 1.

<sup>2</sup> Math. I, pl. 3, cf. II. 32.

<sup>3</sup> M. o. G. LI, p. 150, fig. 16. r—s.

<sup>4</sup> Math. II, pp. 11 ff.

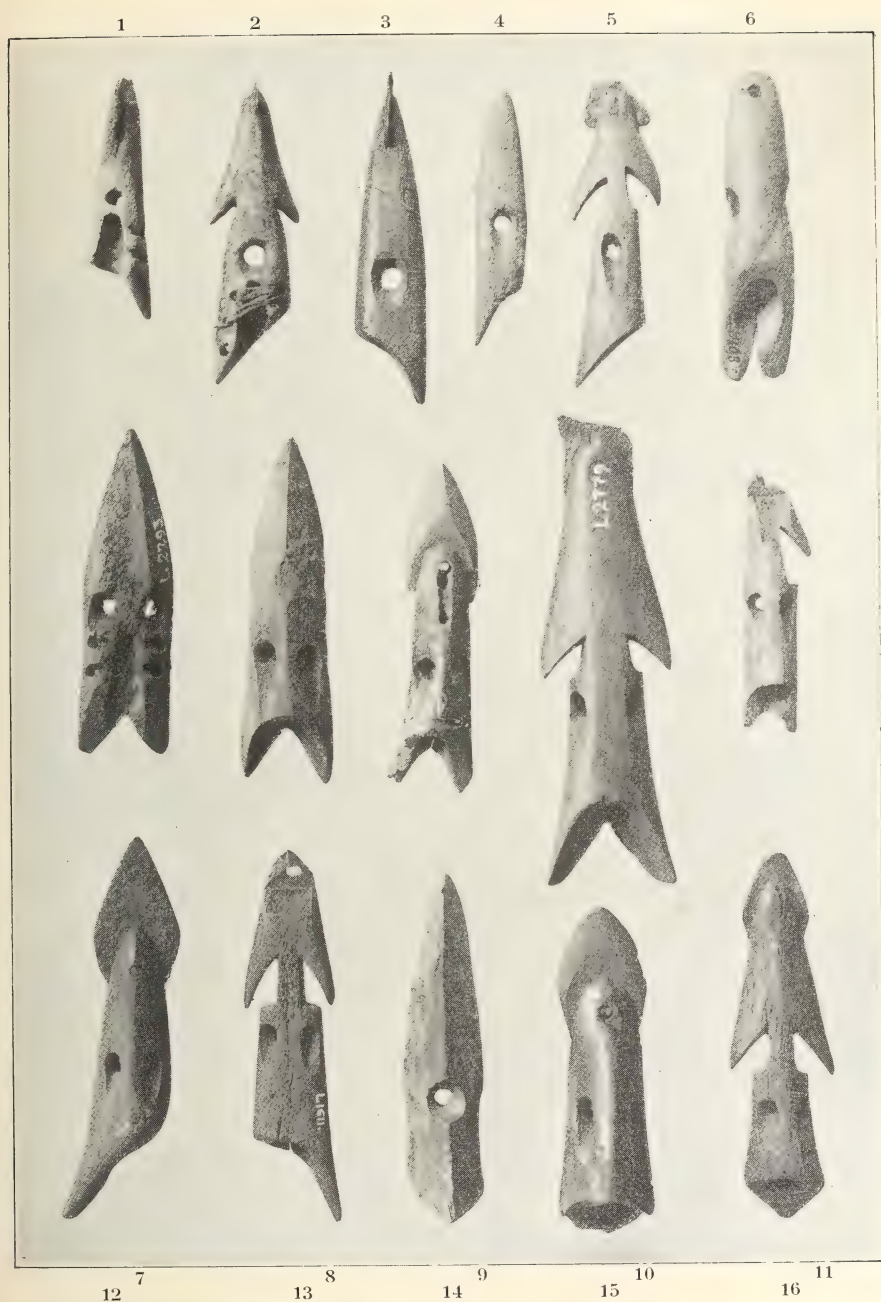


Fig. 26. Harpoon heads from West Greenland. (National Museum).

It appears that the thin forms with an open socket (cf. 1—2) which are typical of the Thule culture, are all found in the Cape York District and the most northerly parts of West Greenland, whereas only one specimen of the

most recent of the types has been found in North-east Greenland, and owing to the poor state of preservation it is not absolutely sure that it is a case in point.<sup>1</sup> Outside Greenland these forms occur from Siberia throughout the whole of the Eskimo area.

The corresponding more recent types with a closed socket have in their typical forms (3—4) become distributed all over Greenland.

The third main group, flat with an open socket (7) is in Greenland only known on the west coast; the fourth one which is derived from the latter, and has a closed socket was and is the most frequently occurring form in Greenland (8 ff); many special forms which have developed from it are still in use.



Fig. 27. Harpoon heads from North-east Greenland.  
(National Museum).

In North-east Greenland two forms predominate (fig. 27), *viz.* a flat form with two spurs and without an inserted blade (a—b), and a rounded form, a transition form between thin and flat (c—e), most of them with one spur, a few with two; the flat type has not been found with an inserted blade, whereas this is always the case with the other one. The North-east Greenland flat type contracts at the rear part and is thus distinguished from the Angmagssalik type which is broadest at the rear part.<sup>2</sup>

A special position is occupied by the large and heavy harpoon heads, which were used for hunting whales (fig. 28); these harpoon heads have been found in several localities of West Greenland, being always of the same type, very thin with one spur. It is an extremely old Eskimo form, which already occurs in the Naujan find.<sup>3</sup> The whale hunt itself is described by the 18th century

<sup>1</sup> M. o. G. XLIV, p. 231, fig. 7. While this article has been in the printer's hands, an authentic specimen of the Thule type from Cape Tobin at Scoresby Sound has been presented to the National Museum by Mr. Janus Sørensen.

<sup>2</sup> cf. Thalbitzer, M. o. G. XXXIX, pp. 426 ff.

<sup>3</sup> Math. I, pl. 4.8. cf. II, p. 27.



authors;<sup>1</sup> the costume made out of one piece, which kept the whaler from sinking when the animal was being flensed, is found in the National Museum and is pictured by Birket-Smith;<sup>2</sup> Porsild also describes the hunt.<sup>3</sup>

In addition to the two harpoons mentioned above, the knob harpoon and the winged harpoon, the permanent kayak

equipment comprised a small harpoon of the type which, by Mason, is called a barbed harpoon. In Greenland this harpoon most frequently has a bladder on the side of the shaft, and so it is generally called bladder dart (fig. 23 c); such a dart, but without a bladder, is shown by Birket-Smith.<sup>4</sup> The bladder dart was placed in the front part of the kayak, together with the bird dart; now it is practically out of use in North Greenland, whereas it is still employed on the southern part of the west coast and at Angmagssalik. According to Birket-Smith, the number of bladder darts in use at Godthaab is rather increasing, because they are very serviceable in white whale hunting.<sup>5</sup>

On fig. 23 c, behind the middle part of the shaft, is seen the mouthpiece of the bladder, which is lacking; the very long forepiece is connected with the middle of the shaft by means of a strap.

The bladder dart most frequently found in West Greenland has a long and

heavy forepiece like the one shown on the said illustration. As appears from fig. 29 a, it has a conical termination, which was also the case with the forepiece for the large harpoons of the older type; it was inserted into a conical socket in the front part of the shaft which was strengthened by a lashing; in front there are generally one or two circles of barbs, which may, however, be wanting. It is a local

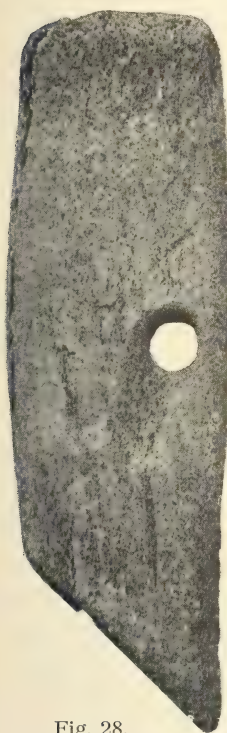


Fig. 28.  
Whaling harpoon head  
from Hunde Eiland,  
West Greenland.  
(Porsild Collection).



Fig. 29. a. Fore-  
piece for a blad-  
der dart.  
b. arrow point.  
(Nat. Museum)

<sup>1</sup> For instance, Hans Egede: *Perlustration*, p. 57.

<sup>2</sup> M. o. G. LXVI, p. 189.

<sup>3</sup> M. o. G. LI, pp. 143 ff.

<sup>4</sup> M. o. G. LXVI, p. 68.

<sup>5</sup> l. c., p. 305.

Greenlandic form,<sup>1</sup> which however goes several centuries back, being shown on the frequently mentioned painting, from 1654, in the collection of the National Museum; one of the weapons in the same collection may with great probability be identified as having belonged to the museum of the Danish physician Ole Worm, and thus originating from the Greenlanders who in 1606 had been carried away to Denmark.

Of far rarer occurrence in Greenland finds is the shorter, flat forepiece, most frequently made of antler. Such a specimen is figured by Birket-Smith,<sup>3</sup> and is certainly of a more recent date, as it has a distinct shoulder round the peg instead of the older, gradually tapering shape. Mathiassen is of opinion that this is the oldest form, being related to a specimen included in the Naujan find<sup>4</sup>, and to the Alaska forms; Birket-Smith calls attention to their being in use among poor and isolated Greenlanders, as late as the end of the 18th century.

The kayak implements further include the bird dart, the short dart with side prongs on the shaft (fig. 23 b) which is found all over from Siberia to East Greenland; it is of a similar length and thickness as the bladder dart, but is not a harpoon, the forepiece being made fast to the shaft. The forepiece is now a long, thin, tapering iron rod, already in use immediately after Hans Egede's arrival in Greenland, as appears from the picture from 1724<sup>5</sup> in the National Museum; the bird dart prior to that time in West Greenland<sup>6</sup>, was supplied with a heavy forepiece, in the same manner as the bladder dart, its conical rear part being attached to the shaft by a screw thread; in the National Museum there are several complete specimens of this older type. The specimens shown on fig. 23 b has four, others three prongs. In West Greenland the barbs are, with one exception, placed on the inside of the prong, in North-east Greenland there is generally also one barb on the outer side, and this feature recurs in prongs from the Naujan find.

Complete, older specimens of the large lances or of the knob harpoon have not been found. On the other hand, forepieces have frequently been found, also with stone blades. The forepiece of the lance is only distinguished from that of the harpoon by the blade being lodged directly in its front part.

What has been said in connection with the harpoon as to the rear part of the forepiece, also applies to the lance. As far as our knowledge goes, there seems to be a line of division in the region round Scoresby Sound, the

<sup>1</sup> The only related specimen I know outside Greenland is the one pictured in Math. I, p. 324, fig. 113 from Pelly Bay.

<sup>2</sup> cf. M. o. G. LXVI, p. 185.

<sup>3</sup> M. o. G. LXVI, p. 304, fig. 215.

<sup>4</sup> Math. I, pl. 2.7.

<sup>5</sup> M. o. G. LXVI, p. 169.

<sup>6</sup> In North-east Greenland forepieces for bird darts have not been found up to the present; when Angmagssalik was discovered, thin forepieces were used, made of bone and resembling the present iron rods; cf. M. o. G. XXXIX, p. 435, fig. 137.

older conical termination occurring north of this line, while the plane surface round the peg occurs south of it.<sup>1</sup>

A complete specimen of the small lance used to give the seal its death stroke is found in a grave in Christianshaab District, West Greenland (fig. 23 d).

Finger rests to support the hand while throwing the larger weapons, in such cases where throwing boards are not used, are found in considerable numbers in Greenland, both towards the west and the east.<sup>2</sup> The shape is related to the one known from the more recent finds of the Thule culture.<sup>3</sup>

In its present form the kayak stand which is placed in front of the hunter, in order to hold the coiled line for the sealing bladder, has three legs and a bone ring around it. In former times a cruciform type occurred, known from a couple of West Greenland finds in the National Museum, one of them being figured by Birket-Smith. This form was still in existence among the Angmagssalik tribe, when it was discovered by Gustav Holm in 1884.<sup>4</sup>

Fig. 30 shows a kayak paddle and an umiak oar from the National Museum; the former is somewhat narrower and more slender than the paddles now in use, but the shape is the same.

The forepiece of the ice harpoon is fixed to the shaft, most frequently by lashing. In the Cape York District in the olden times whole narwhale tusks were used for forepieces, so that the shaft was quite short; at Angmagssalik no forepiece was used at the time of the discovery, the head being placed directly on the shaft. When excepting these extremes, the forepiece was generally of a similar length as in the case of the harpoon, conical with the rear part cut off obliquely. For North-east Greenland the forepieces are pictured in M. o. G. XLIV.<sup>5</sup>

Another implement belonging to hunting on the ice was the ice pick; it was lashed to the upper end of the harpoon shaft, and was used to break the ice which

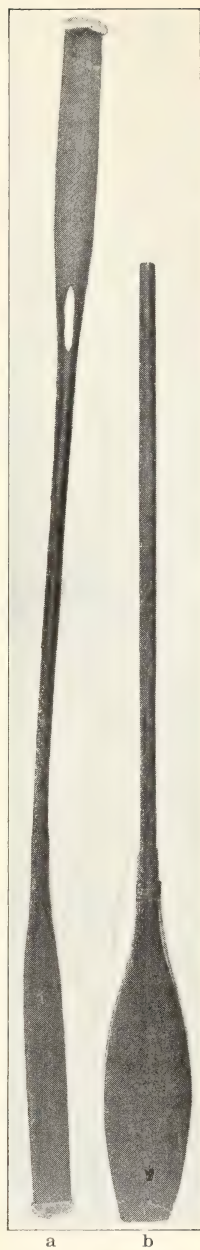


Fig. 30. a. kayak paddle, b. umiak oar. (National Museum).

<sup>1</sup> cf. M. o. G. XLIV, p. 390.

<sup>2</sup> For North-east Greenland see M. o. G. XLIV, p. 392.

<sup>3</sup> Math. pl. 65.<sub>8</sub> and 82.<sub>14</sub>.

<sup>4</sup> Compare M. o. G. LXVI, p. 306 with vol. XXXIX, p. 388, fig. 32 b, where Thalbitz figures a specimen from Angmagssalik.

<sup>5</sup> For instance, pl. 10.<sup>5</sup>, pl. 15.<sup>3</sup> and pl. 20.<sup>9</sup>; cf. text on pp. 387 ff.



had formed at the breathing holes. In West Greenland a special shaft is nowadays generally used for this purpose, with a European chisel attached to it, but even as late as the time of Hans Egede the older flat and pointed bone picks were used. They are shown on the illustration on page 39 in his "Perlustration", and are of extremely common occurrence in finds from both coasts<sup>1</sup>. They already occur in the Naujan find, and were at one time distributed over the whole of the Eskimo area<sup>2</sup>.

The illustration just mentioned from "Perlustration" represents a Greenlander sitting on a one-legged stool (as fig. 31 c) with his feet on a footstool. I have on a former occasion<sup>3</sup> given my reasons for supposing that the one-legged stool which is a local West Greenlandic form, must

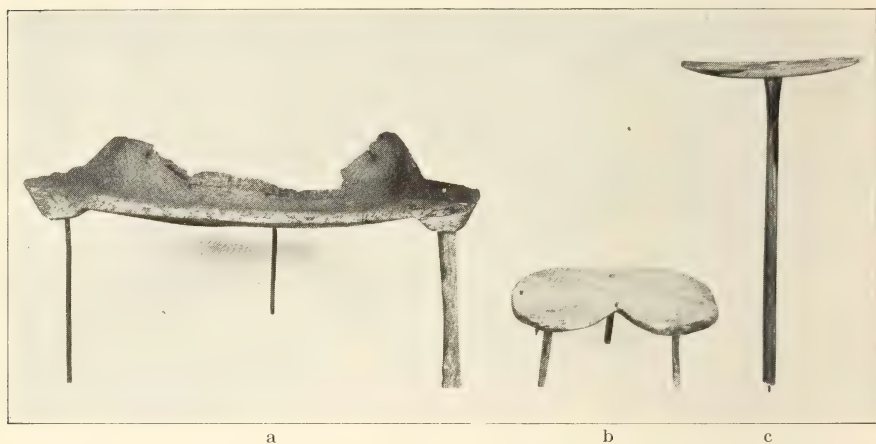


Fig. 31. a. sealing stool from North-east Greenland, b. stool and foot stool for ice hunting; from a grave, Jacobshavn District, West Greenland. (National Museum).

be a late invention, presumably due to European influence. The foot-stool (fig. 31 b), on the other hand, is found both in the Cape York District, in West and North-east Greenland and on Axel Heiberg Land and Grinnel Land. Now, at Angmagssalik and in the Cape York District, stools are used with high legs and meant for people to sit on; in the case of the former locality, Thalbitzer<sup>4</sup> has explained, on linguistic grounds, that the stools may originally also have been used to stand on, and at Point Barrow similar stools are used for the feet, either in a standing or a squatting position. On the east coast of Storm Bay in North-east Greenland the "Danmark" Expedition found the chair, shown on fig. 31 a, which, with its hollowed seat, can only have been used to sit on; it is low, 34 cm in height, and so the

<sup>1</sup> cf. for West Greenland, illustration in Birket-Smith. M. o. G. LXVI, p. 60, fig. 21 b; for North-east Greenland, Thomsen. M. o. G. XLIV, pl. 16.<sub>3</sub>; cf. text, p. 393.

<sup>2</sup> cf. Math. I, pl. 4, 2—3, II p. 35.

<sup>3</sup> M. o. G. XLIV, pp. 393 ff.

<sup>4</sup> M. o. G. XXXIX p. 423.

person resting on it in reality must have been squatting. This specimen is hitherto unique in Greenland, and practically also elsewhere; the fragment excavated by Mathiassen<sup>1</sup> at Mitimatalik, however, seems to be related to it; two other specimens, from Button Point and from Comer's Midden rather belong to the other group.<sup>2</sup> However this may be, people at any rate in the olden times have used an implement for resting during the slow and tedious catching at the breathing holes.

This treatment of the chief implements for sea hunting is all we can find room for in the present outline of the archæology of Greenland. In addition, it should only be mentioned that nets or fragments of nets knitted with baleen have been found several times in Greenland, and that there has been a discussion about the age and Eskimo origin of the net, although, for the time being, it is not possible to adopt any one of the views put forth as the correct one; for details of this discussion the reader is referred to the exhaustive summary given by Birket-Smith.<sup>3</sup>

As to West Greenlandic fishing leisters and harpoons, the reader is referred to the same work<sup>4</sup>; while for North-east Greenland leisters are dealt with in a former treatise written by the author<sup>5</sup>; only one of the specimens found has the characteristic barb so frequently found in the salmon spears of the Naujan find.

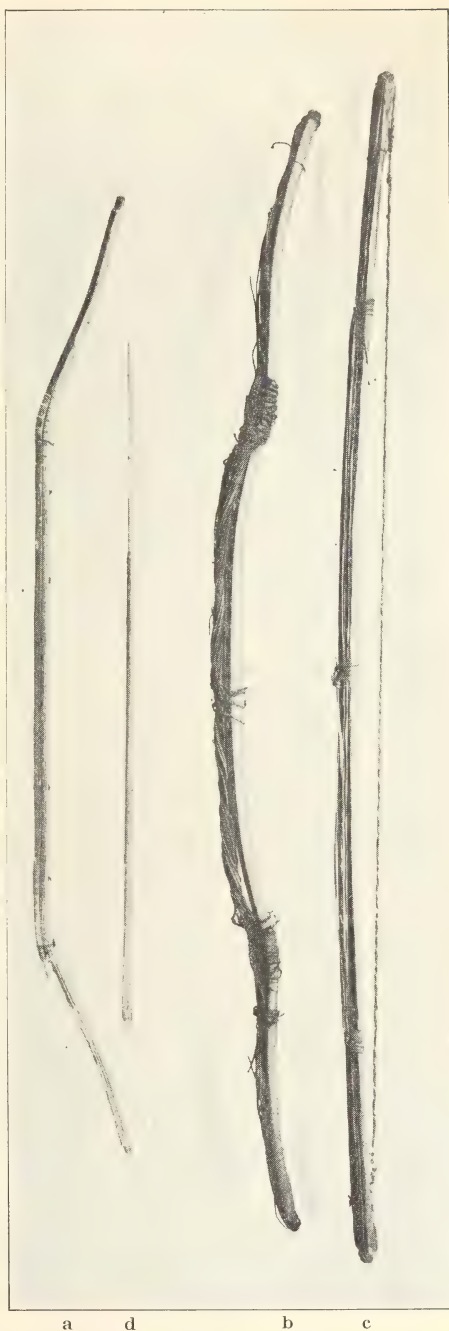


Fig. 32. Bows and arrow from West Greenland. (National Museum).

<sup>1</sup> Math. I, p. 192.

<sup>2</sup> l. c., pl. 62, 4 and p. 295.

<sup>3</sup> M. o. G. LXVI, pp. 332 ff., where the various treatises are quoted.

<sup>4</sup> l. c. pp. 358 ff.

<sup>5</sup> M. o. G. XLIV, p.

Whereas most of the implements for sea hunting are still used, although in an altered shape, the weapons used for hunting on land, *viz.* bows and arrows, have long ago been replaced by fire-arms.

As to the Cape York District the Central Eskimo bow was introduced with the immigration in the sixties of last century; it consisted of several lashed pieces of antler, with sinew backing. This bow only had a very short existence, as after the North Pole expeditions of Peary the tribe was everywhere provided with good fire-arms. When, in 1909, I visited those regions it was no longer to be found, but I met an old man who in his youth had never used anything else and was able to make one for me. At the time of the introduction of this bow such weapons had been unknown for a long period, and the finds hitherto made do not contain any traces of an older type. However, very few investigations have been made in the district, and there can hardly be any doubt that future finds will bring to light specimens of perhaps all the types known from the remaining parts of Greenland.

In West Greenland there were, probably at various times and in various regions, three types of bows, *viz.* two of wood and one of baleen; fig. 32 shows these types from specimens in the National Museum.<sup>1</sup>

(a) is a compound bow of baleen; this type is known from North-east Greenland, and from West Greenland, but with certainty only from the two most northerly districts, Upernivik and Ũmánaq. Birket-Smith is undoubtedly right when he says that its northerly distribution is connected with the fact that this was a region where whaling played a very great part, and that it has gone out of use before the other types, probably, as Porsild says, because it had too little power of resistance. These bows are short; the specimen shown above, which is the longest one known, is 1.16 m long, another complete specimen in the National Museum is only 0.82 m.

(b) and (c) have staves of wood; the backing is of the arctic type, defined in detail by Birket-Smith.<sup>2</sup> (b) has wings bent backwards, whereas (c) is straight. The latter form is the one which remained, until the bow, after the middle of the 18th century, was supplanted by the gun; it is known about the middle of the 17th century from the painting in the National Museum.<sup>3</sup>

As this type of bow has remained longest in use, it is only natural that it is best represented in the collections of the National Museum.

The specimen shown on fig. 32 b of a bow with the wings bent back is included in the inventory of the Royal Cabinet of Curiosities from 1737, but it may be considerably older; a bow of the same shape is figured in Joh.

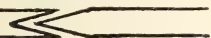
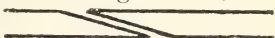
<sup>1</sup> cf. Birket-Smith: The Greenland Bow, M. o. G. LVI; Thomsen. M. o. G. XLIV, pp. 399 ff., with special reference to North-east Greenland; Porsild (M. o. G. LI, pp. 158 ff.) treats bows and arrows, chiefly from a technical point of view.

<sup>2</sup> M. o. G. LVI, p. 19.

<sup>3</sup> M. o. G. XLVI, p. 185.

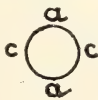


Anderson's book from 1747<sup>1</sup>, but it may also, then, have been an older specimen; indeed, it must certainly have been so, as this form would otherwise beyond doubt have been mentioned by the Danish authors of the 18th century. For the two other West Greenlandic specimens we are indebted to Porsild, and they both came from Disko. In North-east Greenland the bent form was the prevailing one, as far as it is possible to judge from the finds. It is most often composed of several pieces, connected in this manner

; this is also the case with the only West Greenlandic bow of this kind, which has not been manufactured out of one piece. There is one composite specimen from West Greenland of the straight form, but the joining then consists of two oblique surfaces, viz. 

It should be remembered that the bent bow has been found on Southampton Island, where the last survivors of the peoples of the Thule culture lived<sup>2</sup>; its individual parts are joined in the same manner as in North-east Greenland. The Naujan find itself also comprises parts of bows with the same method of joining;<sup>3</sup> as to the form of the bow, however, nothing can be concluded from the small fragments. On the other hand, the find of twisters shows that the Naujan bow was backed, as was, for that matter, to be expected. Twisters which served to wind the thread in the backing<sup>4</sup> are found wherever backing was used, and were known in Greenland (fig. 33 a—b).

Marline-spikes which are thrust in for the purpose of dividing the threads (fig. 33 c—e) are also found everywhere in Greenland where the bow is found; they do not occur in the Naujan find, but only in the younger finds from Kuk on Southampton Island.<sup>5</sup> But a greater material must be at hand before it can be decided whether this is due to chance, or whether the marline-spike in its typical form, entirely corresponding with the Greenlandic one, is an implement imported at a later date.

The National Museum collections contain several West Greenlandic arrows with the shafts preserved, only a few of them, however, with the feathering (fig. 32d). The steering feathers are two in number, being inserted opposite one another with the front parts flat against the shaft, and made fast with sinew thread. The back part of the feather is not on a line with the front part, but a quarter of a circle from it, as will appear from the sub-joined cross-section where (a) indicates the front part of the feather and (c) its back part, which  is inserted into a groove in the shaft. The shaft is round in front, but flattened behind with a notch for the

<sup>1</sup> Nachrichten von Island, Grönland u. der Strasse Davis. Frankf. u. Leipzig, 1747, p. 286.

<sup>2</sup> cf. Franz Boas: The Eskimo of Baffin Land etc., p. 64, fig. 85 a—b.

<sup>3</sup> Math. I, pl. 8.

<sup>4</sup> for instance l. c., on the same plate.

<sup>5</sup> l. c., pl. 69.<sup>14</sup>

Greenland. II.

string; its length varies greatly, even in the same find, and so also the relative length of shaft and head.<sup>1</sup> The shaft is whipped in front in order to keep the head fast and to prevent the shaft from splintering.

The heads or rather their front parts vary still more. They are generally of the shape of a slender leaf, without inserted blades; they may have one or several barbs on one or both sides, or they may be devoid of barbs (see fig. 29 b and fig. 32 d).<sup>2</sup> Behind the leaf-shaped front there is generally a

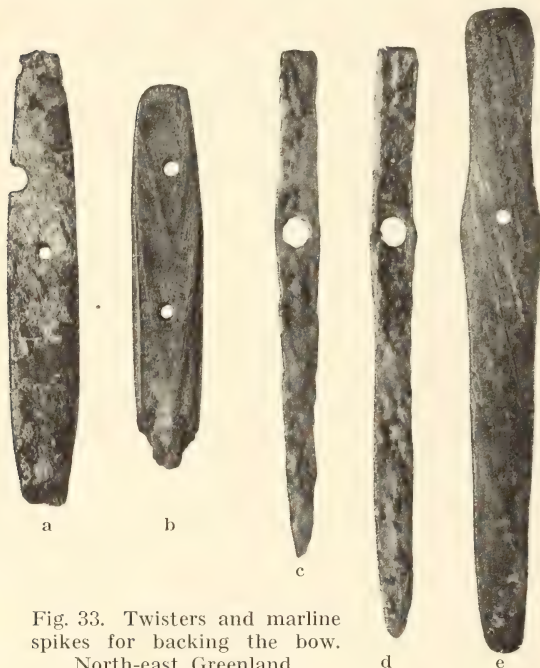


Fig. 33. Twisters and marline spikes for backing the bow. North-east Greenland. (National Museum).

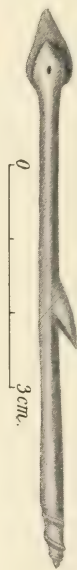


Fig. 34. Very small arrow head with inserted blade from Disko Fiord. (Porsild Collection).

long, thin, cylindric part with a conical termination. This conical termination is the typical feature of the common Greenlandic arrow head; and for further security it is frequently provided with a couple of projections or a screw thread.

Inserted blades as on fig. 34 are rarer; when found, they generally replace the leaf-shaped bone part. The blade on fig. 34 is made of iron; a single specimen in the National Museum consists of a mussel-shell. In order to make it stronger the front part, where the blade was to be inserted, was made wider and thicker, almost pear-shaped.

In the Cape York District the arrow head, like the bow of the 19th century, was of the recent Central Eskimo type; the arrow head was, as is

<sup>1</sup> cf. some measures, M. o. G. XLIV, p. 409.

<sup>2</sup> cf. otherwise illustrations to Porsild (M. o. G. LI, p. 161) and Birket-Smith (M. o. G. LXVI, p. 344).

the custom there, cut off obliquely behind, in order to be lashed to the shaft. In the National Museum there are, however, two old specimens from these parts with a conical termination.<sup>1</sup> In Comer's Midden no arrow heads were found in the course of the Danish investigations, whereas the American investigations brought to light several specimens without barbs or with one barb only; the termination was conical with two knobs; of the type with a blunt point mentioned below one specimen, however, was found which had been spliced.<sup>2</sup> The conical termination is a feature which belongs to the oldest finds of the Thule culture, and which in an older period was on evidence everywhere from west to east. However, in the more recent finds from Qilalugkan and Malerualik the oblique termination occurs;<sup>3</sup> thus both forms exist from the Cape York District.

In North-east Greenland the same type of arrow head is found as in West Greenland, with a conical termination and with or without an inserted blade; on the other hand, barbs are, up to the present, not known from there. On two specimens the termination is cuniform; both of these however are miniature pieces.<sup>4</sup>

The blades for arrow heads, in such cases where they are preserved, vary so greatly in size that it is hardly possible to decide which of the numerous stone blades belong to arrow and which to harpoon heads,<sup>5</sup> at any rate, when they are not diminutive. A rare form of a stone blade for an arrow head is represented by fig. 9., slender, with finely dentate edges; in one case it was also found on the north-east coast; it has never been found inserted.

It is known from the older literature that arrows with blunt points or with several points have been used for the hunting of birds, and such arrows have been found; as far as North-east Greenland is concerned, the specimens pictured in M. o. G. XLIV p. 408 probably belong to the latter kind. As a rare form may further be mentioned the automatic arrow head which was first identified by Porsild.<sup>6</sup>

In North-east Greenland comparatively large leaf-shaped arrow heads have frequently been found; their termination is not conical, but flattened so that they may be inserted into splintered shafts. Fig. 3,<sub>4—6</sub> come from a grave at Snenæs; they were found together with a fragment of a shaft

<sup>1</sup> cf. M. o. G. XLIV, p. 405 and Math. II, fig. 10.2.

<sup>2</sup> cf. Clark Wissler: *Archæology of the Polar Eskimos* (Anthrop. Papers of the American Mus. of Nat. Hist., vol. XXII, part. III, New York, 1918), p. 146.

<sup>3</sup> cf. Math. II, pp. 45 ff., with reference to illustration ere also an account has been given of the disputed relation between the screw-threads and the knobs on the conical termination.

<sup>4</sup> M. o. G. XLIV, pl. IX.

<sup>5</sup> cf. M. o. G. XLIV, p. 386, with some indications of size.

<sup>6</sup> *Une arme ancienne de chasse des Esquimaux et son analogue de la culture pré-historique de France* (M. o. G. XLVII).



(fig. 3.7) which has a circular cross section at one end, but becomes broader and thinner at the other, so that it must beyond doubt have belonged to an arrow shaft.<sup>1</sup>

### SNOW-KNIVES



Fig. 35.  
Snow-knife from  
North-east Greenland.  
(National Museum).

The broad bone knife used for cutting out blocks for snow-huts is only found in Arctic Greenland, but on both coasts. Fig. 5 represents a typical snow-knife from West Greenland; the same form recurs in North-east Greenland, but with a more gradual transition between blade and handle, not the sharp bend as in West Greenland.<sup>2</sup> Another form is, however, more frequent on the north-east coast, *viz.* with two shoulders, at different levels, between blade and handle (fig. 35). In the case of Cape York the find from Comer's Midden comprises this form as well as that with one shoulder, indeed, both the more sharply bent West Greenlandic variety and the more gradual curving North-east Greenlandic one.<sup>3</sup> The finds of the Second Thule Expedition from the same locality also comprise knives made of baleen.

The two-shouldered form already occurs in the Naujan find, whereas the one-shouldered type is only brought to light by the more recent finds of the Thule culture<sup>4</sup>.

### IMPLEMENTS FOR THE PREPARATION OF FOOD

It is not possible, in the present article, to deal with the various wooden trays, bowls, ladles etc.<sup>5</sup> However, mention must be made of the soapstone cooking vessel and lamp, which are typically Eskimo implements. The chief

<sup>1</sup> M. o. G. XLIV, p. 408.

<sup>2</sup> cf. M. o. G. XLIV, pp. 421 ff.

<sup>3</sup> Wissler. l. c., pp. 138—39.

<sup>4</sup> Math. I, pl. 15, 1—3 and 5, II, pp. 65 ff.

<sup>5</sup> As to these household implements the reader is referred to illustrations given by Porsild, M. o. G. LI, pp. 221 ff., where attention first was called to marrow extractors (his fig. 56); cf. further Birket-Smith. M. o. G. LXVI, pp. 380 ff.

result emphasized by Mathiassen<sup>1</sup> regarding the cooking vessel is that the Greenlandic forms, which have rounded corners or are quite oval, are more closely related to the Thule culture than the modern Central Eskimo oblong and angular form. Mathiassen is further of opinion, no doubt rightly, that the rounded shape originates in clay vessels, such as are found in Alaska; as in the more easterly parts they were made of soapstone, the Central Eskimos during later years changed the shape according to the material, the angular form being most convenient for working in stone, whereas the rounded forms remained in use among the Greenlanders.

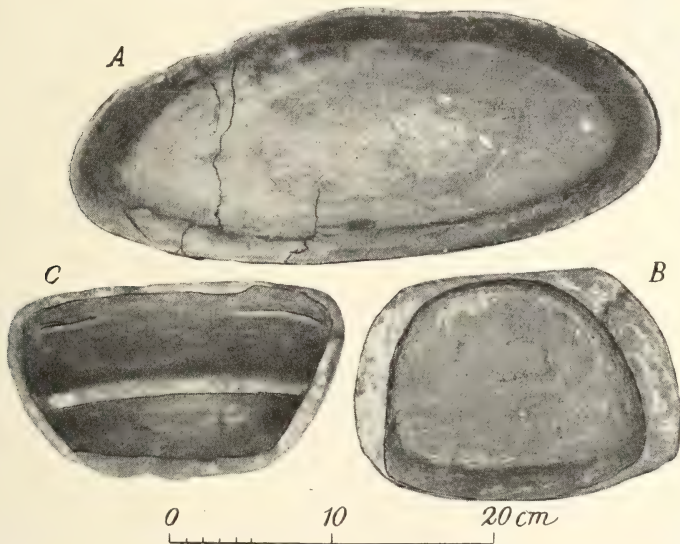


Fig. 36. Soapstone lamps from West Greenland. (After Porsild),

The lamp (fig. 36) occurs in Greenland in rather varying shapes, which fact has induced Porsild to deny the existence of definite types of the Eskimo lamp.<sup>2</sup> Mathiassen, however, maintains<sup>3</sup> that the explanation of the apparent want of types is that far too little is known of the difference in place and time between the different forms. This view, I think, is correct, but if so, it must prove that the question of the lamp is not yet sufficiently elucidated for scientific treatment. In this connection it should only be mentioned that there are lamps without any subdivision (A—B)—and this is most frequent—and others with two subdivisions, which are only connected in one place; the blubber is laid in the rear subdivision against the convex side, and as it melts, it flows into the receptacle proper. Such lamps with two subdivi-

<sup>1</sup> Math. II, p. 162.

<sup>2</sup> M. o. G. LI, p. 219.

<sup>3</sup> Math. II, p. 219.



Fig. 37. Blubber club and meat fork from North-east Greenland. (After Thalbitzer).

sions or compartments, but with many notches in the ridge dividing them, already occur in the Naujan find.<sup>1</sup>

In connection with the preparation of food mention should still only be made of the two specimens represented by fig. 37; they are meant for different purposes, *viz.* a blubber club and a meat fork, but they have one common feature in the shape of the handle, which is broad with notches for the fingers, and resembles the handle of a throwing board. This handle, which is typical of North-east Greenland, has thus been used for several implements.<sup>2</sup>

### CONCLUDING REMARKS

In the foregoing we have discussed certain principal features and chief implements within the archæology of Greenland. It has only been possible to give scattered details with no attempt at completeness—as a matter of fact chiefly reports on what has already been achieved—not merely because it would have gone beyond the narrow limits of the present article, but also because a large work in the field still remains to be done, before it will be possible to write the archæology of Greenland in its entirety.

In conclusion we will attempt to set forth some brief remarks on the position of Greenland within the Eskimo culture, and the mutual relation of the individual parts, or, in other words, the routes of migration, as far as these can be derived from the finds.

When in 1884 Gustav Holm, for the first time, met the Angmagssalik tribe, he was struck by the fact that their ornamentation was far richer than in the other parts of Greenland and reminiscent of that of the Western Eskimos, although with essential differences. He states<sup>3</sup> that “the correspondence between the artistic skill of the East Greenlanders and the West

<sup>1</sup> Math. II, fig. 1.32. A fragment of this type from Scoresby Saund has been presented to the National Museum, together with the harpoon head, mentioned in note 1 on p. 314.

<sup>2</sup> cf. Thalbitzer, M. o. G. XXVIII, p. 482, fig. 63 and p. 531. Thomsen, M. o. G. XLIV, p. 469.

<sup>3</sup> M. o. G. XXXIX, pp. 122 ff.



Eskimos seems to indicate that the East Greenlanders had more recent communication with the latter than the West Greenlanders, and thus bears out Rink's view that the East Greenlanders reached their present habitation by going north of Greenland," and in a note he gives further reasons for this supposition.

In 1895 C. Ryder described the results of his excavations at Scoresby Sound,<sup>1</sup> and by differences in the forms of various implements, he, too, was led to a comparison with older articles originating from the Western Eskimos.

According as Eskimological works grew more numerous, and the material for comparison consequently richer, it became more and more surprising that the resemblance which exists between finds from Greenland and the Western Eskimos was not to be found between Greenland and the Central Eskimos. It was not until this century that a connection became visible, after Franz Boas had begun to deal with the ethnography of Southampton Island and its neighbouring parts, from an archæological point of view chiefly on the strength of material collected by Capt. Comer.<sup>2</sup> By means of this new material he saw the connection between the culture in North-east Greenland and these regions, and he stated his point in a review<sup>3</sup> of Thalbitzer's description of the Amdrup Collection.<sup>4</sup> This observation having once been made, it was further elaborated by Danish writers<sup>5</sup> in connection with various implements, but the honour of being the first to grasp this point is justly due to the famous American Eskimologist.

The new light which had thus been thrown on the connection of Greenland with the remaining Eskimo area, was that which more than anything else moved Knud Rasmussen, when, in 1909, he conceived the plan of an expedition, the chief task of which was to study the routes of migration followed by the Eskimos towards Greenland.<sup>6</sup> For various reasons, principally connected with the Great War, this plan was not realized until 1921, when, in a somewhat modified form, it was undertaken by the "Fifth Thule Expedition in charge of Knud Rasmussen". With the kind permission of the Canadian Government, the archæologist of the expedition, Therkel Mathiassen, was enabled to undertake considerable excavations in many places within the

<sup>1</sup> Om den tidligere eskimoiske Bebyggelse af Scoresby Sund (M. o. G. XVII).

<sup>2</sup> The Eskimos of Baffin Land and Hudson Bay (Bull. of Amer. Mus. of Nat. Hist. vol. XV New York, 1901—07).

<sup>3</sup> Relationships of the Eskimos of East Greenland (Science New ser. vol. XXX, New York 1909).

<sup>4</sup> Ethnological Description of the Amdrup Collection from East Greenland (M. o. G. XXVIII).

<sup>5</sup> Thalbitzer: Bidrag til Eskimoernes Fortidshistorie III (Geograf. Tidsskrift vol. XX) and Die Ethnographische Zusammenhang der Eskimo Grönlands mit denen der Hudsonbai (Baessler Archiv vol. II) as well as Th. Thomsen: Implements and Artefacts of the North-East Greenlanders, M. o. G. XLIV, p. 487.

<sup>6</sup> Geografisk Tidsskrift, vol. 20, pp. 92 ff. Copenhagen 1910.

central area, and by combining archæological and geological observations he succeeded in making a chronological arrangement of the finds, according to the different strata, and to prove the existence of an old culture at a time when the country lay considerably lower and had more open water round it, thus yielding better conditions for the hunting of big marine animals.<sup>1</sup> This culture, which was called the Thule culture, forms the connecting link, hitherto absent, between the past cultures of the eastern and western Eskimo area. The fact that this culture has been identified is a very considerable step towards solving the problem of the origin of the Eskimo culture. In the present article, however, no attempt will be made to enter into this problem; it would take up too much space, and, besides, it is even now a much debated question. From the point of view of the archæology of Greenland, the work of the Fifth Thule Expedition has been like breaking new ground. Time after time we have, in the foregoing, had occasion to point out that forms both on the east and the west coasts have their roots in the Thule culture, and a number of those already occur in the oldest or the Naujan find; but still it seems as if the culture of the Greenland immigrants, in the main, represents a somewhat more recent stage. Here, however, it must be repeated, as has been mentioned earlier in this article, that it is not a question of a single immigration, but of several, at different times. To unravel these is not possible for the present, as the archæology of Greenland is still too insufficiently explored to do so, but the Danish Government is deliberating on the best manner in which to carry on systematic investigations for this purpose.

It has not been possible to establish an absolute chronology for the finds of the Thule culture, as we do not possess sufficient knowledge of the rise of the land in the Central Eskimo region, any more than in Greenland, but if this point could once be elucidated, it would be of very great importance from an archæological point of view. As to the time of the immigrations very little can be said. When the old Norsemen founded their settlements in South Greenland at the end of the 10th century, they found the remains of these early inhabitants, but of the people themselves very little was seen during the first centuries; it is probable that the first wave of immigration, the traces of which the old Norsemen found, had already passed the south point and up along the east coast. In the 14th century there has undoubtedly been a greater movement down the west coast, which led to the fights with the Norsemen. The oldest immigration, perhaps, did not extend far down the west coast; a number of the oldest forms of implements only occur in the most northerly districts; thus the Eskimos, as set forth by Solberg, had undoubtedly already been settled there for a comparatively long time before they moved towards the south, possibly urged by a new wave. How-

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<sup>1</sup> Therkel Mathiassen: *Archæology of the Central Eskimos I—II* (Reports of the Fifth Thule Expedition, vol. IV).

ever, this problem cannot be solved on the strength of the present material, and this also applies to the not less interesting problem of the reciprocal relations of Eskimos and Norsemen in the regions where they met.

As to the routes of migration within Greenland itself, no agreement has as yet been arrived at. At the present time there is hardly anyone who doubts that the immigration took place across the narrow sounds off the northern part of the west coast, the area of the Polar Greenlanders, and there is certainly also full agreement on the point that the greater part of the immigrants followed a southern route down the west coast.

But here the agreement ends, the experts being divided into two main groups, *viz.* those who think that immigration took place in a southern direction along the west coast and then up the east coast, and those who are of opinion that a larger or smaller part of the east coast was peopled from the north. To the former group belong Knud Rasmussen and Birket-Smith;<sup>1</sup> thus, after the Second Thule expedition, Knud Rasmussen stated that he considered a wandering across the northern part impossible.<sup>2</sup> To the latter group belong Rink, Gustav Holm, Solberg, Thalbitzer, Schultz-Lorenzen, Mathiassen *et. al.* and in support of this view I have myself at one time set forth a number of archæological arguments<sup>3</sup> which do not seem to have been invalidated by the observations made since that time. There is, however, some disagreement between the authors of the latter group as to the point where the two currents of culture are supposed to meet. Gustav Holm is of opinion that the Angmagssalik tribe came from the north, while I, personally, think that a line which forms the division between the two cultures, can be traced at Scoresby Sound. However, it must be admitted that it will be possible to move this line, subject to a more accurate archæological investigation of the Angmagssalik District; it is practically only the more recent culture which is known from this place, and the material for comparison is, therefore, by no means sufficient. Here as on many other points it is, as already suggested, not possible to make any progress before the whole of Greenland has been subjected to thorough archæological investigations.

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<sup>1</sup> cf. for instance, M. o. G. LIII.

<sup>2</sup> Grönland langs Polarhavet pp. 577 ff.

<sup>3</sup> M. o. G. XLIV.





# ON THE ICELANDIC COLONIZATION OF GREENLAND

BY

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**T**wo brothers, the sons of one Gunnbjörn, are mentioned in the Landnámabók (ed. 1900, 150/121) as Icelandic settlers from about the year 900 or perhaps a little earlier. Their father Gunnbjörn who undoubtedly was of Norwegian descent, lived in the latter half of the 9th century. He evidently had set sail for Iceland, possibly with a view to settling in those parts, just as a brother of his had settled there, but as to this no certain data are to hand. The only fact known (from the same source) is that the Gunnbjörn Skerries are called after him. These skerries he is said to have found, when driven westward past Iceland by fierce storms, and further he is said to have seen land farther towards the west. The Gunnbjörn Skerries must be looked for east of the east coast of Greenland or, according to more recent authorities, west (or northwest) of Ísafjörðr.

The tradition of this country which had thus been seen towards the west was undoubtedly maintained among the descendants of Gunnbjörn in Iceland. In the 10th century, or to be more precise during its second quarter, it is recorded (also in the Landnámabók, 152/122) that some men from the south-western regions of Iceland undertook a voyage of exploration to the Gunnbjörn Skerries. Among them were two brothers, whose father's sister had married a nephew of Gunnbjörn's. They are said to have found the skerries, but the expedition ended unfavourably, and no results were obtained. Actual proofs that what they discovered were really the Gunnbjörn Skerries are naturally not to hand; but the tradition of the land farthest west was kept up for a long while afterwards.

During the early part of the second half of the 10th century the Norwegian Thorvald Ásvaldsson and his son, Erik the Red, left their home at Jadarr in Norway, as it is recorded "because of manslaughter", and they set sail for Iceland and settled in the northern region near the so-called Hornstrandir, the sternest and most forbidding part of the island. After the death of his father, Erik moved to the more hospitable regions near

Breidafjörðr, having before that time married Thjodhild, the daughter of a chieftain. Here again Erik was mixed up in murderous frays, with the result that he was condemned to outlawry. To Norway he could not

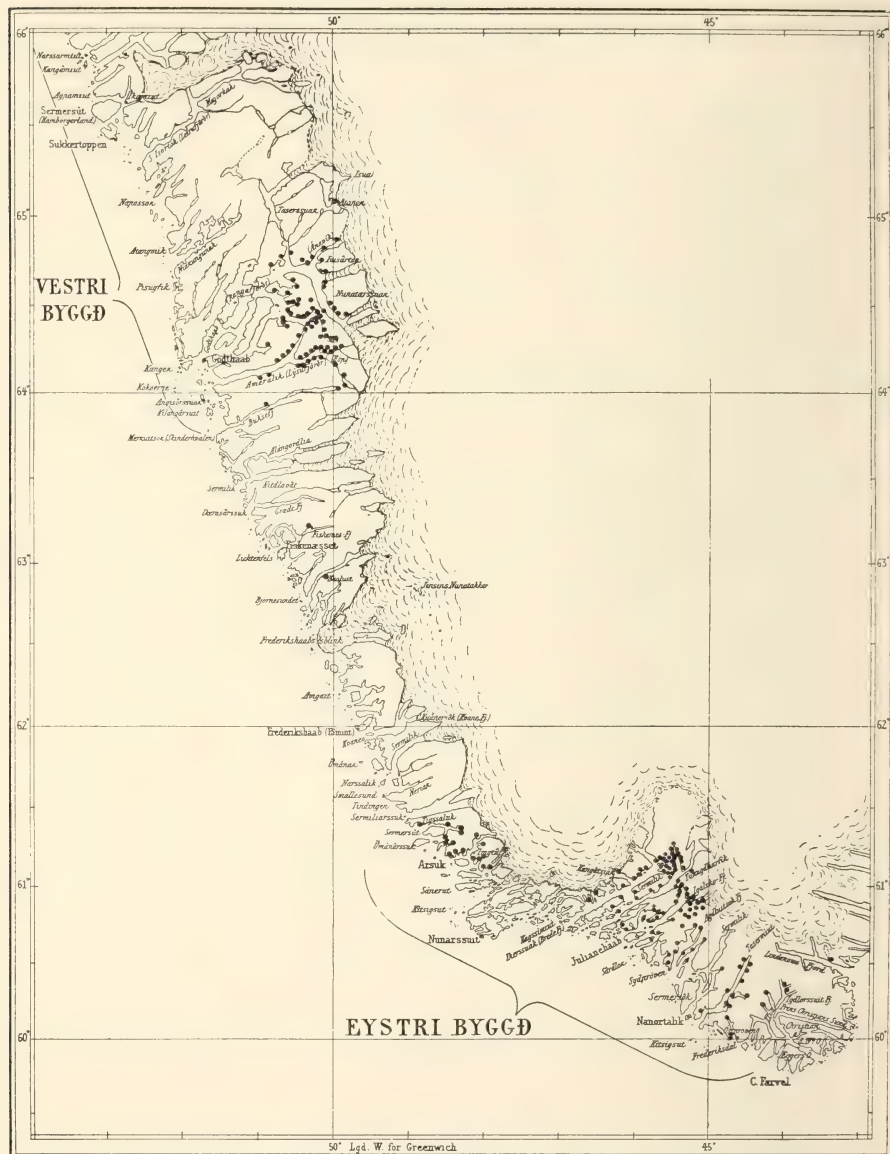


Fig. 1. Map of south-western Greenland showing the old Icelandic settlements; each dot represents the place of a farm. (From Medd. om Grönland, vol. LXI).

return, and so he resolved, as he at once made known to his friends, to go in search of the land which had been sighted by Gunnbjörn on the above-mentioned voyage. The account of this is to be found in the Landnámabók



89/77, and identical with this record and probably derived from it is the second chapter of the saga of Erik the Red (Eirík's Saga Rauda). The wording of the passage is as follows: "Erik sailed out to sea from Snæfellsnes and arrived at Midjökull <sup>1</sup> (on the east coast of Greenland) where it is called Bláserkr (Blueshirt); thence he sailed southward, along the coast, that he might find out whether the country in those parts was habitable. He passed the first winter at Eiríksey near the middle of the western (*viz.* the eastern) settlement, the so-called Vestribygd. In the spring he proceeded to Eiríksfjörðr and settled there, and that summer he explored the western uninhabited region, naming many of the localities there. The second winter he spent at Eiríksholmar, below the peak of Hvarf, but the third summer he sailed northward to Snæfell and into Hrafnfjörðr. He then believed that he had reached the head of Eiríksfjörðr; from where he turned back and passed the third winter at Eiríksey at the mouth of Eiríksfjörðr."

There seems to be a good deal of vagueness in this record. The Midjökull and Bláserkr must undoubtedly be supposed to belong to the east coast of Greenland (cf. Fridtjof Nansen: "Nord i Taakeheimen" pp. 222 ff). It seems likely that in the fragment quoted above the reading "eastern" is more correct than "western," as it would be quite unnatural to imagine that Erik would at once have penetrated as far as the old Vestribygd. The first-mentioned Eiríksey must rather be supposed to be identical with the island of the same name mentioned immediately afterwards, though it is not impossible that there may have been two islands of the same name. Snæfell and Hrafnfjörðr, according to the record, must be supposed to be situated north of the old Eystribygd, either between this and the Vestribygd or in the latter. This otherwise unknown Hrafnfjörðr must then be different from that in the Eystribygd.

Thus Erik had discovered the country and formed an idea of its nature and extent. He called it Groenaland, "the green land," as is expressly recorded in the Landnámabók, because he might more easily persuade people thither, if the land had a good name, and a similar explanation is also given by Are Frode in the Íslendingabók (compiled about 1130). After having lived and explored there for three years Erik returned to Iceland from whence he had come, with the obvious intention of recruiting settlers for Greenland. He succeeded, in so far as 25 ships (according to Landnámabók) are said to have sailed from the regions round Breidafjörðr and Borgarfjörðr; but only fourteen reached their destination, the others being lost at sea or driven back to Iceland. This happened in 985 ("fifteen years before Iceland was Christianized," as is recorded in the Landnámabók.)

If we suppose that there were twenty to twenty-five persons in each

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<sup>1</sup> Midjökull is supposed to be the glacier between Sermilik Fiord and Cape Mösting; what the "Bláserkr" is, is considered uncertain.

vessel—and this seems the highest number likely, seeing that the ships also carried cattle, sheep and horses, as well as household utensils—the number of the original Greenland settlers amounts to about or slightly over 300. Later on a few scattered colonists were added to this number.

These new arrivals settled along the many fiords on the west coast of Greenland from about lat. 60° N. and long. 44° 30' W. to about lat. 62° N. and long. 46° W.—the so-called Eystribygd. That this was the exact locality of the settlement must now be considered definitely proved and beyond all discussion.

At the same time or during the last twelve months of the 10th century, the Vestribygd was also populated i. e. the regions farther north round the present Ameralik Fiord and Godthaab Fiord (between about lat. 64° and 65° N.), though no data are to hand as to the manner in which the distribution took place. The greater part of the long stretch between the settlements was never inhabited and was called the western *obygd* (uninhabited region).

The Landnámabók gives the names of some of those who settled in Greenland:

1. Herjólf, in Herjólfssfjörðr, living at Herjólfssnes.
2. Ketill, in Ketilsfjörðr.
3. Hrafn, in Hrafnssfjörðr.
4. Sölvi, in Sölvadalr.
5. Snorri (or Helgi) Thorbrandsson, in Álptafjörðr.
6. Thorbjörn glora, in Siglufjörðr.
7. Einarr, in Einarsfjörðr.
8. Hafgrim, in Hafgrimsfjörðr and Vatnahverfi.
9. Arnlaug, in Arnlaugsfjörðr.
10. Thorkell farserkr, in Hvalseyjarfjörðr.

The nomenclature is quite Icelandic: fiords, capes and valleys are called after the settlers (1—4, 7—9), after natural conditions (10), after an event (presumably 6) or after the Icelandic home of the settler(? 5). Eiriks-fjörðr derived its name from Erik himself. Herjólf is called a “most distinguished man,” and there is hardly any doubt but they were all able and powerful men.

According to the Eyrbyggja Saga, Snorri (5) in all probability did not arrive in Greenland till towards the end of the century, and this also appears from the saga of Erik the Red; but in one copy of the Landnámabók he is called Helgi, and is possibly a brother of Snorri.

As to the taking of land in the Vestribygd there are no direct records. About the year 1000 a son of Erik the Red, Thorsteinn, had a homestead or farm at Lýsufjörðr together with another man of the same name, but the Vestribygd in all probability was not entirely populated until the 11th cen-

tury. On the discovery and first settlement of the country there is also a short chapter in the *Íslendingabók*, but the most important statement contained in this work is that the settlers from the very first found "both east and west in the country traces of (former) habitation, fragments of tholes and stone implements, so that it may be perceived from these that that manner of people had been there who have inhabited Vinland and whom the Greenlanders call *Skrælings*". From this it also seems clear that, in 1130, the Greenlanders, as the Icelandic settlers and their descendants were called, had not yet come into contact with the Eskimos in Greenland itself. This only happened a long time afterwards.

## II.

In the preceding mention has been made, quoting from the *Landnámabók*, of some fiords and localities, which were named on or immediately after the taking of land. We are now going to give a complete survey of the whole of the inhabited area which, as already mentioned, consisted of two widely separated settlements, the *Eystribygd* and the *Vestribygd*, or the eastern and western settlement. Our authorities in this respect are the *Landnámabók* (see above), the saga of Erik the Red, as well as a few other sagas, the scene of which is partly laid in Greenland, as the *Fostbroedrasaga* and the *Groenlendingatháttir*, but first and foremost the list of fiords, which has been compiled in Iceland, a list of churches, as well as the description of the country from the 16th century, written in Danish and purporting to be composed by the Norwegian Ivar Baardsøn who was steward to the Bishop at Gardar during the 14th century (about 1341—68), and who undoubtedly knew the greater part of the settlements through personal inspection. As to all this and the critical treatment thereof, the reader is referred to the detailed account in my treatise: "*Grönlands gamle Topografi efter Kilderne*" (*Med. o. G.* vol. XX). Here the main results are given with a few corrections resulting from later researches.

A. *The Eystribygd*. The region round the present Cape Farewell was in the olden times entirely uninhabited.

East (east to north) of Cape Farewell there are a quantity of larger and smaller indentations and sounds. Among these the extremely long sound *Ikerasarssuaq* is particularly striking. It is probably this fiord—that it was denominated "fiord" is easily understood—which was called *Öllum-lengri viz.* "longer than all" (others). Farther towards the north and east there were, according to Ivar, who is also the only authority for the above "fiord," the harbour *Finnsbúdir* (Finn's Booths), called after one Finn, who perished in it (in *Thattr Líka-Lodins* (*Flateybók*) the place is said to have been east of *jökuls* and the island *Krossey*; whether the latter is identical with the *Krosseyjar* (pl.) is doubtful, but it is not impossible). It is tempting to sup-



pose that what is meant in this case are in reality the islands round the cross-shaped fiords and sounds which are situated due north of the Cape Farewell Island, and that the latter would be Krossey (sg), which would not be irreconcilable with the expression of Ivar. This might also be inferred from the wording of an entry in the Icelandic Annals for the year 1189: "Ásmundr kastanraze came from Krosseyjar . . . he had also been in Finn's Booths" (Icel. Ann. 120 cf. 61). It should also be borne in mind that Krossey is said to have belonged to the cathedral, and thus in all probability was not too far distant<sup>1</sup>.

According to Ivar, Berufjörðr should have been farthest to the east of Skagafjörðr. The fiord is described so accurately that it should be possible to identify it. To these regions also Spalsund (perhaps = the narrow sound) mentioned by Björn, and Drangey (the island with the pointed rock or the "point-shaped") must be referred.

In Skagafjörðr we have a fiord the situation of which can hardly be very doubtful; it is in all probability the fiord immediately west of Igdlorssuit, *viz.* Kangikitsaq and "Skagi," the broad intermediate cape which terminates in a point. Above this fiord was the valley Sölvadalr (a river running through a small lake). The easternmost fiord, which might be said to form the boundary of the settlement, was presumably Tófafjörðr. Between this and the next fiord towards the west, which was called Herjólfsfjörðr (Torssukátak), was the broad cape called Melrakkane (i. e. fox cape, Narssaq); here there was an excellent harbour Sandhöfn or Sandr (on the west coast) near Herjólfsfjörðr. Herjólfssnes is the cape west of the latter, the present Ikigait. This is one of the facts which we may regard as certain.

Between Herjólfsfjörðr and Tasermiut there is a broad cape, broken by a broad fiord with several branches. Here the Helliseyjarfjörðr is to be looked for; in the fiord several islands are to be found, one of which must be Hellisey (i. e. cave island) presumably Igdlukasik. In the literature there is no conclusive information. The long fiord, Tasermiut, is the old Ketilsfjörðr, this being also one of the ascertained facts. In the middle of the latter towards the east there is an inlet, Pétrsvik; upwards from this inlet there is a great lake, Taserssuaq, with the beautiful valley Qíngua, the old Vazdalr (i. e. lake valley). Farther towards the inner end of this fiord—presumably at Tasermiutisiaq—one of the Greenland monasteries is said to have been situated. Farther outwards there is an indentation, Vík (Tasiussaq) with Áross; here there was a church.

The next principal fiord, Sermilik, must be Álptafjörðr, presumably called after the home of the settler; in case the latter was Snorri, he arrived in Greenland at a later period than the others (see above), when the

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<sup>1</sup> As to this see G. Holm's treatise in *Med. o. G.* LVI. Holm is of opinion that the islands are to be looked for on the east coast of Greenland.

greater part of the other more attractive fiords had already been taken, so that he had to rest content with this one; here only few ruins have been found.

Off this fiord there are several islands; the largest of these, Sermersôq, is perhaps the old Lundey (i. e. puffin island) and the small island south of the latter, Nanortalik, possibly the old Hrakbjarnarey; this name presents some difficulty, meaning the island of the pursued (or "miserable") bear.

West of Sermilik is the fiord Ûnartoq with an island on which there were (are) hot springs—another ascertained fact. This fiord was Hrafnarfjörðr, and Ivar mentions islets in this fiord, where there "is much warm water, which during the winter is so hot that no one can come near it, but during the summer so pleasantly warm that it is possible to bathe in it," and he says that "many regain their health by doing so." At the head of this fiord he says that there is a nunnery. On the island there were (are) three hot springs (G. H. M. III 806) *ûnartoq*, the boiling.

Then comes Siglufjörðr, Agdluitsoq, the inner part of the western branch of the latter (Amitsuarssuk) being called Vágar. Somewhat farther inland there is here a lake which drains into the fiord; in this there is a waterfall, after which the homestead Fors was called, this homestead making part of the King's domain. Between Siglufjörðr and Einarsfjörðr there is a large and broad stretch of land (cape), the outermost part of which is indented with smaller inlets and fiords; among these we must look for a few less important fiords, *viz.* Sléttufjörðr (i. e. the fiord of the plain) and Hornafjörðr, called respectively after a plain and upstanding peaks or summits. No mention is made of habitations, but a couple of ruins have been discovered in these regions. It seems as if it ought to be possible to identify these fiords by means of the suggestions contained in their names. After this Ófundinnfjörðr is mentioned, and M. Clemmensen is undoubtedly right in trying to identify this fiord with the small, well-hidden Semiseq.

We now come to the most fertile and populated fiords and regions, Einarsfjörðr and Eiriksfiörðr. Einarsfjörðr is identical with Igaliko Fiord, and outside its mouth the large island Hreinsey (i. e. reindeer island) was situated; the latter is in all probability the present Akia. Einarsfjörðr branches off in the interior part, and the eastern arm was called Austfjörðr (i. e. east fiord). At the extreme western side of the fiord were two smaller inlets or wicks, Thorvaldsvík and Grafarvík (presumably called after a pit or depression in the ground), on the east side there is a small fiord (inlet), the present Egoaluit, formerly Hafgrimsfjörðr. From here and upwards to the north-east there is a group of lakes which with a common name were called Vatnahverfi (*hverfi* i. e. group, cluster), where many ruins have been found. In Austfjörðr there was a homestead with a church, Höfði, under a projecting hill. North-west of the fiord there is a cape which in all probability is the Langanes of the Fostbroedrasaga, with the farm of that name and another

called Hamarr. Here also the Skjálgsbúdir, an anchorage and trading station, must have been situated. At the head of Einarsfjörðr there is a low strip of land separating it from Eiríksfjörðr, the present Igaliko isthmus—then called Eid. Here was the farm of Gardar with the cathedral and the Bishop's residence, and here the Althing of Greenland met, so that upon the whole Gardar must be looked upon as the very heart of the eastern settlement. At the head of the fiord was Vík (i. e. the wick). The cape between the two fiords becomes broader the farther out one gets, and there are two main indentations. The most easterly of these, Qaqortoq Fiord, is undoubtedly the Hvalseyjarfjörðr of the old Norsemen, called after the large island in the middle of it, Hvalsey (i. e. whale island), which was probably named after a stranded whale. Here lived, according to the Landnámabók, Thorkell farserk, a cousin of Erik the Red; it being expressly stated that he claimed the greater part of the country between Einars- and Eiríksfjörðr. Once, when Erik came to visit his cousin, he is said to have swum as far as Hvalsey in order to fetch a ram, as there was no boat at the homestead. This Thorkell is supposed to have been versed in witchcraft and to have walked after his death. The fiord to the west, *viz.* of the peninsula where Julianehaab is situated, was Kambstadafjörðr (Kangerdluarssuk) called after Kambstadir, a farm which in its turn derived its name from the rock Kambr (i. e. comb), which corresponds entirely with the meaning of the Eskimo Kidtlavât. At the head of this fiord lay presumably the farm of Thjodhildarstadir, perhaps called after the wife of Erik the Red, Thjodhild.

After Einarsfjörðr comes Eiríksfjörðr, off the mouth of which lies Eiríksey, and at (in) the mouth of the latter Fossasund should be situated (according to Ivar). The whole of the east coast of the fiord was uninhabitable, and this also holds good of the arm at the head of the fiord Kôroq. All the more inhabited was the western side and both sides of the interior of the fiord proper. On the east side lay the farm Stokkanes (Kiagtút?) and at the innermost part of it lived the old couple Gamli, mentioned in the Fostbroedrasaga.

On the west side lay the main farm, the homestead of Erik the Red, Brattahlíð, at times presumably also only called Hlíð (cf. the name Hlíðarkirkja) near Kagssiarssuk. The settlement is and was one of the most beautiful in Greenland. Farther out was Hardsteinaberg (i. e. the whetstone mountain, the Eskimo Sitdlisít having the same meaning).

The cape between Eiríksfjörðr and Sermilik Fiord, undoubtedly the Ísafjörðr of the ancients, was called Dyrnes; at the extreme end of this were the two small bays, Ytrivík and Innrivík (the latter nearest Eiríksfjörðr). The west coast of Dyrnes is a straight and far-stretching uninhabitable coast, which undoubtedly was called Strandir (cf. a similar name in Iceland), and after that the first indentation was called Strandafjörðr. Ísafjörðr continues north—north-west, but towards the east there are two other fiords besides Strandafjörðr, *viz.* Midfjörðr (i. e. the middle fjord), and Kollufjörðr; together



these three fiords were called by the significant name *Midfirdir* (pl.) or "the middle fiords." In *Midfjörðr* lay *Gardanes* and a church. Clemmensen is of the opinion that this church was in all probability situated at *Isaroq*.

On the mainland between the inner parts of *Isafjörðr* and *Eiríksfjörðr* lay the rock *Solarfjöll* (probably *Qordlortoq* or *Ulungnarssuaq*). Here there was another church ("undir *Solarfjöllum*," as to which see Clemmensen's treatise).

Towards the north-west fiords open out from *Isafjörðr*. Here we must look for *Utíblíksfjörðr* (*utíblík*, something that blinks out there, has surely no connection with the Eskimo *ítivdleq*); *Mjövafjörðr* (i. e. the narrow fiord); *Breidafjörðr* (i. e. the broad fiord). Off the mouths of all the last-mentioned fiords there are, besides the already mentioned small island of *Eiríksey*, a number of islands: *Lambey* (i. e. lamb island) off *Kambstadafjörðr* (*Lambeyjarsund*, the sound west of the latter) with a group of islands called *Lambeyjar* (pl.), *Langey* (*Tugtutóq*). These islands have principally been used as pastures for sheep, and trips to the latter from the inhabited fiords were, according to *Ivar*, called *fara til eyja* (go to the isles). In the list of fiords are further mentioned five fiords which cannot be identified, in particular as they have all been called after men. Seeing that these fiords must be looked for farther north-west than the last-mentioned fiords, it is clear that the *Eystríbygd* must be considered to have extended even farther. This also agrees with the fact that the old Norse ruins have been found at *Arsuk*, but not beyond the latter, so that the *Eystríbygd* must be supposed to have extended as far as *Arsuk Fiord*. With this agrees the distance stated between the settlements (see below); cf. *D. Bruun* in *Geografisk Tidsskrift* 1903—04.

As mentioned above there then follows a long uninhabited coast stretch, according to *Ivar*, of twelve miles (icel. *vikur*). *Björn Jónsson* in his *Chorographia* says that there is six days' rowing for six men to the *Vestribygd*; after this follows a confused piece of information, but the meaning must be that it is to *Lýsufjörðr* that this six days' rowing applies; this is confirmed by the fact that *Lýsufjörðr* is reckoned as the first of the fiords of the *Vestribygd*. Of these are mentioned ten in all, but much less information is given as to homesteads and conditions of settlement than in the case of the *Eystríbygd*. These ten fiords are called: *Lýsufjörðr*, *Hornafjörðr*, *Andafjörðr*, (i. e. ducks' fjord), *Svartíffjörðr*, *Agnafjörðr*, *Rangafjörðr*, (i. e. the crooked or winding fiord), *Leirufjörðr* (i. e. the clay fiord) *Lodinsfjörðr*, *Straumsfjörðr*, *Eyjarfjörðr*.

According to the latest researches made and the results obtained by *D. Bruun*, *Lýsufjörðr* should be the southernmost branch of *Ameralik Fiord*, *Ameragdla*, where there was a populous settlement; here he also thinks that he found the ruins of two churches which can hardly have been used at the same time. *Sandnes* should be a sandy cape at the head of the fiord near *Qilaussarfik*, and the whole of the *Ameralik Fiord* would then be *Lýsufjörðr*. If this is correct, the northern branch must be *Hornafjörðr* or the little fiord

between Hjortetaknæs and Godthaabsnæs, most likely the latter. Andafjördr and Svartifjördr must then be one of the indentations north-west of Godthaabsnæs. Agnafjördr with Hóp would then most likely be Pisigsarfik, which as regards the populous settlement might be said to meet the case, but whether Hóp agrees with present conditions, is, in my opinion, not so conclusive. The main fiord was Rangafjördr with the inlet Anavík (derived from the man's name Ani), undoubtedly Ujaragssuit. Leirufjördr, called so on account of its clayey bottom which was visible at low water, is presumably the southern Isortoq (i. e. the clayey), Lodinsfjördr (the man's name Lodin), possibly Evigheds Fiord, whereas Straumsfjördr must undoubtedly be said to be the present Ström Fiord. Finally it is fairly sure that Eyjarfjördr is Itivdleq, called after the long island situated in its outer part. This identification, however, must be put forward with some reservation.

North of the Vestribygd, or in particular in the regions round Godthaab-Fiord, there were no settlements, though the Greenlanders knew the coast much farther north, at any rate as far as Disko, perhaps even as far as Melville Bay. They went there for the sake of the fishing (seal and whale), and the sojourn in those regions was called *nordrseta*. A few local names are known, as e. g. Greipar, which seems to have been the chief place of residence during this "stay in the north" somewhat south of Disko Bay. Bjarnarey has been identified with the Bjarnarey, mentioned in the Choro-graphia, round which there was twelve days' rowing; this only agrees with Disko, though the statement is most likely somewhat exaggerated. Here in these northern regions we must in all probability look for the Himnrakafjöll (this was presumably the old name which is mentioned in the supplement to Ivar's account). An interesting memorial of these fishing expeditions is the little runic stone, which has been found on the island of Kingigtorsuaq (lat. 72° 55' N.) nearly 16 miles north-west of Upernivik. On this little rocky island the remains of three beacons or cairns were found, and among the latter a small slate stone with an runic inscription to the effect that three named persons had raised these cairns on April 25th. The stone is from about 1300. (As for fuller particulars see Grönl. Selsk. Aarsskrift, 1914). This is the most northerly place, where the presence of the Greenlanders has been proved. The above-mentioned men beyond a doubt spent the winter in these northern regions.

There is one important place which we have left unmentioned, and that is Hvarf or Hvarfsgnípa. That it should be Cape Farewell is out of the question. Ivar says that the day before Hvarf is sighted one sees (i. e. while sailing) Hvítserkr, and between (under) these two mountains lies Herjólfssnes. Consequently, Hvítserkr should lie southeast of Ikigait, and Hvarf to the west (north-west) of the latter. I have formerly set forth the supposition that it is be a rocky point on the island of Sermersôq (Lundey?) the present Cape Egede, and there is no doubt that the actual situation favours

this supposition. However, D. Bruun (Geogr. Tidsskr. 1903—04) is of the opinion that Hvarf should be placed still farther north, *viz.* at Nunarssuit (Cape Desolation), but the definite expression of Ivar opposes this theory and hardly permits of a place so far to the north-west. Consequently, I feel persuaded that at any rate Hvarf must be looked for in these southerly regions; from the point of view of navigation there is nothing to prevent this supposition, as ice conditions at that period were in all probability different from what they are now, and did not prevent direct navigation from the open sea, as was formerly supposed.

Hvítserkr was in all probability a single mountain or peak on southernmost Greenland (perhaps Cape Farewell itself?). Fridtjof Nansen is certainly not right when in "Nord i Taakeheimen," p. 225, he sets forth the supposition that the name signifies the inland ice generally.

According to the Chorographia there were 190 (210?) farms in the eastern settlement and 90 in the western, and these figures are no doubt very nearly correct. A number of those have been found (about 150 in the Eystribygd and over 60 in the Vestribygd), and several of them have been excavated.

From this it is possible to make a rough calculation of the population. If one supposes that there were about 25 persons on each homestead all told—and this seems the highest possible figure—the total number becomes 9000, but if anything this figure is too high.

Of churches there seem, according to various authorities, to have been twelve in the eastern and four in the western settlement.

*The churches of the Eystribygd were:*

Herjólfssnes—Ikigait.

Vík in Ketilsfjörðr—Ároskirkja in Ivar.	} Tasermiut.
Vatsdalr (Vazdalr).	

Vágar in Siglufjörðr—Amitsuarssuk.

Höfði in Austfjörðr—Kagssiarssuk.

Hardsteinaberg, Dyrnes—Sitdlisít.

Hvalseyjarfjörðr—Qaqortoq.

Gardar in Einarsfjörðr—Igaliko.

Brattahlíð—Kagssiarssuk.

Sólarfjöll.

Ísafjörðr—western side of Sermilik.

Gardanes in Midfirdir—Isaroq (?)

*The churches of the Vestribygd were:*

Lýsufjörðr.

Hóp in Agnafjörðr.

Anavík in Rangafjörðr.

Straumfjörðr.



Of these churches the following have been identified by excavations: the church on Herjólfssnes with the churchyard, of which the sea has broken up a good deal; the church at Höfði, as well as the church at Gardar, which was a cathedral, owing to the fact that the Bishop's See was there; it was consecrated to St. Nicolaus, built of red sand-stone, about  $26\frac{1}{2}$  m long and 3 to 4 m broad, and surrounded by a large churchyard.

Here fragments have been found of a very large church bell, the far-reaching tones of which the Eskimos mention in their legends. The church at Brattahlíð has also been identified, and a few more have been traced with probability.

Finally, we have the well-preserved ruins of the interesting great church at Qaqortoq, the Hvalseyjarfjörðr church, which is 16 m long and a little more than 8 m broad; the walls, which are still left, are  $1\frac{1}{2}$  m thick and 3 m to 4 m high. This church in all probability has not been exposed to destruction by fire, as the greater part of the others. As to this, see Clemmensen's treatise in *Med. o. G.* XLVII. The church at Gardanes was presumably situated near Isaroq, (see Clemmensen's treatise pp. 323 ff.).

The churches of the Vestribygd were in any case four in number: on Sandnes in Lýsufjörðr, which church, as mentioned above, according to D. Bruun was found at the very head of the fiord near Qilaussarfik; but mention is also made of a church on Steinnes, which the same author thinks it is possible to trace at Niaqússat ("near a little rocky cape"); here perhaps the former has replaced the latter. The second church was near Hóp in Agnafjörðr, and the third in Anavík in Rangafjörðr; the latter is undoubtedly the church-ruin found at Ujaragssuit. The fourth is uncertain; by some it is said to have been situated at Andafjörðr, by others on Strömsnes in Strömfjord.

At Ikigait, the old Herjólfssnes, finds of remains of dead bodies and graves had been made at an early date. The churchyard, which was situated near the shore, was gradually washed away, so that some of its contents were exposed to view, and it was thought that valuable results would be obtained if systematic excavations were made. The plan was carried into effect, and the issue, if anything, surpassed the expectations entertained. The actual finds will be mentioned elsewhere, and in this connection mention is only to be made of a couple of small wooden crosses which had been found at an earlier period, and are provided with runic inscriptions containing the name of Maria. Among other remains brought to light in the course of these systematic excavations were several crosses bearing rather interesting inscriptions, as for instance: "God the Almighty guard Gudleif (woman's name) well;" or "Thorleiv made this cross in praise and worship of God the Almighty."

A few of them bear inscriptions which are a mixture of Latin and native tongues, for instance: "Kristus natus est nobis (Christ was born for us), Jesus Krístr hjalpi (may Jesus Christ help)." There is even one inscription

which consists of a mixture of medieval charms and the names of God and Christ, the magical formula being partly written in full and partly abbreviated, which puts great obstacles in the way of the interpretation. The Holy Virgin plays a great part in these inscriptions<sup>1</sup>) which throw a peculiar light on the religious life in this lonely place. These inscriptions probably date from about 1300 and are the work of ecclesiastics, at any rate those which are composed in Latin.

In one of the coffins a small stick was found with a curious inscription, announcing the sad death of a woman during the voyage to Greenland, a tragedy which certainly must have been of rather frequent occurrence.

In other places runic inscriptions have also been found as, for instance, on a tombstone from Igaliko: "Vigdis M. d. rests here, God comfort her soul."

To this must be added that, however strange it may sound, there were two convents in Greenland, which are only known from Ivar. The one was an Augustinian monastery, consecrated to St. Olave and Augustine, and situated at the head of Ketilsfjördr, the inner parts of which it owned. At Tasermiutsiaq some ruins have been found which might be those of the monastery. The other was a nunnery of the order of St. Benedict and situated at Hrafnfjördr (Ûnartoq).

Of other localities mentioned in the sagas the most important are Skjálgsbúdir, a trading place, probably identical with Fox Harbour near Igaliko Fiord, Hörnes on Herjólfssnes and Falgeirsvík, somewhere at the head of Eiriksfiördr.

### III.

The sources of the history of Greenland throughout the ages are too few and scattered to allow of a connected narrative, except as regards individual features. Of the first fifteen years practically nothing is heard. During this period the new settlers were employed in choosing the best dwelling places, erecting their homesteads and laying out their *tún* (enclosed fields), as well as in examining the means of getting a livelihood and so on.

Erik the Red had married Thjodhild; their sons were Leif and Thorsteinn (who was the elder), and about the year 1000 they were both grown-up men. In 999 Leif had undertaken a voyage to Norway, where he became acquainted with King Olaf Tryggvason, who persuaded him to accept Christianity and to promise that he would try to introduce it in Greenland. Erik refused to listen to him, whereas Thjodhild soon yielded to the energetic exhortations of her son; she built a church on Brattahlíð, which was called the "Thjodhild Church;" and there she "offered her prayers together

<sup>1</sup> See in detail Med. o. G. LVII pp. 273 ff.

with the men who embraced Christianity—and they were many,” as is recorded in the saga. It is also said that Thjodhild would not have intercourse with her husband after she had received the faith. It was possibly at that period, or after the death of Erik the Red, which occurred not long afterwards, that she took up her abode at the previously mentioned Thjodhildarstadir, if this place is called after her. Otherwise we hear nothing of the spreading and preaching of Christianity, but it may be taken for granted that the country had become entirely Christianized before the death of Leif in 1021.

After the death of his father, Leif lived at Brattahlíð, which through the whole period was the actual chieftain's seat, though it was not always inhabited by the descendants of Erik the Red. As to the other son, Thorsteinn, it is said that he lived at Lýsufjörðr in the western settlement and married Gudríð, the daughter of an Icelandic chieftain, who had emigrated to Greenland; she plays a part in the saga of Erik the Red in connection with the exploration of Vinland (America), as to which see the “Appendix.” From this it may be concluded that the western settlement had also become entirely populated during these early years. Churches must be supposed to have been erected in the course of time, where it was considered expedient; the population was scattered and the distances great, so that relatively many churches were needed; where the country was comparatively level, with widely extended plains and easy communication, larger parishes might spring up than in the narrow fiords which were so difficult of access. Dyrnes church-parish was, according to Ivar, the largest in Greenland, and this also agrees with its situation. It is a matter of course that at first it was rather difficult to get a sufficient number of priests, who must have come from Norway or Iceland. There are no records to this effect, but that it was so appears clearly from the statement of Adam of Bremen, *viz.* that the Greenlanders sent emissaries to Archbishop Adalbert (1043—72) in order to ask him to send them priests.

It seems that already at an early period a community of laws was established for both settlements, and there is no doubt that this was arranged after the Icelandic pattern. An Althing was established, and it held its sessions at Eid, the Igaliko isthmus, where the ruins of the booths are still to be seen; as to this see Clemmensen's treatise. A law speaker's office is mentioned in Greenland, and of course there was also a *lögrétta* (law-court), as to the arrangement of which and whether the judicial power was separated from it, as in Iceland, nothing is known for certain. Neither do we know anything of the activity of the law-court, except in so far as a great number of outlaws, who are mentioned on a special occasion, bear witness of convictions and the same kind of reckless life as in Iceland during the 10th century; and Brattahlíð apparently became the seat of the law-speaker and remained so through the ages.



Otherwise we are not in possession of any positive accounts from the Greenland of the 11th century, apart from what is told in the *Fostbroedrasaga* of the life and doings of Thormod Kolbrunarskáld. He spent three years there, from 1025 to 1027, in order to revenge his foster-brother Thorgeir, who had been killed by the Greenland chief, Thorgrim trolle. During the session of the Althing at Eid (near Gardar) Thormod succeeded in inflicting a mortal wound on Thorgrim, at the very moment when Thorgrim at the Althing was telling an attentive crowd of his doings; the picture presented by this saga is exactly like one of the Icelandic Althing. In the saga are mentioned a number of otherwise unknown persons and interesting localities, and it seems as if the regions round Eiríksfjörðr were at that time fully populated. Thus, mention is made of an old couple living at the very head of the fiord, right under the glaciers.

Of universally interesting *historical* events may, in particular, be mentioned that Greenland became a Bishop's See with its own Bishop though, as recorded in the "King's Mirror" (*Speculum Regale*), it was only one third of an ordinary Bishop's See. Of this there is the following account in the historical *Grænlendingaþáttir* of the *Flateybók* (III pp. 445 ff.) At the time of Sigurd the Crusader, or probably in the period 1122—30, it happened that the chieftain Sokki at Brattahlíð "who had much power in Greenland and was, in high degree, at the head of the people (i. e. a law-sayer)" made the people express a wish for the establishment of a Bishop's See and for defraying the expenses of the same. Einar, the son of Sokki, then went to Norway in order to further and settle the matter; it is told, characteristically, that he brought both walrus hides and tusks in order to conciliate the favour of the chieftains. His mission proved effective; King Sigurd thought the wish reasonable, appointed a "good cleric," Arnold, and sent him to Archbishop Asser in Lund in order that the latter might consecrate him as a bishop. At first Arnold was not very willing, but at last he agreed, however making it a condition that Einar should always defend the rights of the see and support him in every possible manner. In 1124 the Archbishop consecrated Arnold as the first Bishop of Greenland. On the voyage up there he was driven by gales to Iceland, where he had to spend the winter.

The Bishop's residence became the farm of Gardar in Einarsfjörðr (Igalliko), where the Cathedral (see above) was erected at a somewhat later period. From 1152 this bishopric was made subordinate to the Archbishops of Trondhjem, and after this the church life of Greenland must be supposed to have been as flourishing as it could possibly be <sup>1</sup>.

<sup>1</sup> We now are in possession of the complete list of Bishops in Greenland, which reads as follows: Arnaldr 1124—50, Jón Knútr 1150—87, Jón Smirill 1188 (reached Greenland in 1190)—1209, Helgi 1212—30, Nikólás 1234—39, Olafr 1246 (reached Greenland in 1247)—1280, Thórdr 1288 (reached Greenland in 1289)—1314 (left Greenland in 1310 and never returned, Arni 1314 (reached Greenland in 1315)—1349, Jón Skalli

This list and the dates contained in it show what communication there was or became between Greenland and Norway, particularly in the 14th century. Years might pass between the nomination of bishops and their arrival in the country (one or two never reached Greenland). After about 1385 mention is made of a few "Bishops" in Greenland, 1407, 1410, 1430, indeed even as late as 1520 a Bishop Vincentius is mentioned. These were, however, empty names. About 1500, Greenland as such was entirely lost, all communication with foreign parts (Norway) having been discontinued long ago.

When before that time, about 1121, one Erik is mentioned as a "Greenlander Bishop," who is said to have gone to Vinland as a missionary, this appellation must be considered purely titular.

In the Groenlendingatháttir mentioned above there is rather an interesting account of controversies between Bishop Arnold and some Norwegian traders, in connection with a ship owned by the latter, which had perished in the uninhabited southern regions. This account throws light on the Althing-disputes, as in Iceland resulting in murderous frays, and on the greed and lack of rectitude of a bishop, besides illuminating several Greenland affairs which will be mentioned later on.

From now on practically nothing is heard of the inner history of Greenland until the 13th century, and then only that the country in 1261 submits to the rule of the Norwegian king, Hakon, which step proved fatal to the colony. The result was first and foremost that the whole of the Greenland trade was monopolized (1294) and became a "regale" in the same manner as the trade on the Finmark. A trading vessel, frequently called the "knörr," was to undertake the service, and if the "knörr" had made regular yearly passages and brought commodities to and from Greenland, conditions would perhaps not have become quite so bad. At the beginning of the 12th century we find, at the same time, no less than three trading vessels in Greenland. What made for disaster was that this one vessel was repeatedly lost, there being frequent mention of this in the annals, and for several years no "knörr" hailed in Greenland, the consequences of which can easily be imagined. First of all no *grain* arrived in the country, and grain was the commodity which it was hardest to do without. It is, therefore, presumably quite correct, when it is recorded in the "King's Mirror" that there were many people in Greenland "who had never even seen bread," and so also the otherwise so much appreciated ale was lacking. Already at the time of Erik the Red there is a record to the effect that Erik had no ale for the celebration of Yule, which made him sorely depressed; but fortunately some merchants wintering there had all he required. The trade monopoly was severely enforced in the 14th century and even as late as 1425. In 1389 a complaint was

1349—57 (never reached Greenland), Alfr 1365 (reached Greenland in 1368)—1378 (his death was only known in Norway in 1383), Henrik 1385 (never reached Greenland).

made before Queen Margaret that some Icelanders had arrived in Greenland and there carried on illicit trade. The Icelanders took oath that they had been at the Althing in Greenland, where the common people had agreed that no east-men present should be allowed to buy food, unless they also bought other Greenland wares (i. e. commodities which were meant for export). The Icelanders did not dare to do this, though they offered to carry commodities belonging to the crown, but as they had no papers to this effect, no goods were entrusted to them, which caused them to be set at liberty. This throws a clear, but unfortunately also a very lurid light on the unhappy position of the Greenlanders.

About a hundred years later (1484) it is recorded that German merchants in Norway killed all who were acquainted with the route to Greenland; whether this record be true or not—and it does not sound very credible—it is certain that all traffic to Greenland was entirely discontinued. The last notices of Greenland to be found in the annals date from the years 1406—11. In 1406 mention is made of some Icelanders who wanted to sail to Iceland, but were driven by gales to Greenland, where they remained for four years; in 1410 they arrived in Norway, and the following year in Iceland. The wife of one of these men married again in 1410 (assuming that her husband was dead), but when her former husband returned in 1411, he took her back. From about 1407 it is recorded: "A man from Greenland by name of Kolgrim was burnt there for the act of lying with the wife of another man, and she was called Steinunn, the daughter of the law-speaker Hrafn (who perished in the mountain slide at Langahlid 1390 in Iceland); then she was wedded to Thorgrim Sölvason (one of the Icelanders of whom mention is made). Kolgrim lured her with black magic; he was then burnt according to the sentence, and after that the woman was never as heretofore of a sound mind, and she died soon after." This sad and characteristic story is the last entry which is contained in any of the annals of events dealing with Greenland.

From 1492 dates a peculiar papal brief, in which it is said "that during the last eighty years hardly any ships reached Greenland, and that (for a long period) there have neither been bishop nor priests, wherefore the greater part have abandoned their faith or have nothing to remind them thereof except an altar-cloth, which is shown once a year (in the cathedral?). A Benedictine monk had offered to go there as a missionary, but nothing had come of it." There is no doubt that though all communication with Norway was broken off, the population of Greenland would have been able to subsist through the years, there being sufficient food of various kinds to allow them to do that, if they had not been threatened with danger from quite a different quarter.

As early as in the *Islandingabók* there are suggestions of the presence of quite a different race, at a period preceding the Icelandic settlement. This race was the Eskimo. Centuries passed, without the colonists getting into



any kind of touch with them, or having any idea of their existence, although the Eskimos were in the course of time to become their most dangerous enemies and, finally, their conquerors. About the middle of the 13th century the colonists first seem to be aware of the Eskimos or the Skrälings, as they called them. It is clear that the danger threatened from the *north*, the Eskimos having originally come down along the west coast of Greenland, along or across Melville Bay. There is a letter or report written by the Greenland priest Haldór to the priest Arnold, who had been to Greenland, and had later become a chaplain to King Magnus Lagaböter. In this letter are mentioned "some trees cut with small axes, and in one of them wedges of tusk and bone (i. e. Eskimo implements) were stuck," but nothing is said as to *where* they were found. It is further recorded that the priests (in Greenland)—and this is more peculiar—sent a ship up north to explore how conditions were north of the most distant region which they had hitherto visited. The voyage is mentioned in detail, but it led to no results, in so far as no Skrälings were encountered. From this it appears that the fear of the Skrälings existed at the period mentioned, and for that matter it was not long before they appeared. Unfortunately we have no data whatsoever as to the successive advance of the Eskimos towards the south, but there is no doubt that they first penetrated to the Vestribygd. The relation between the colonists and the Eskimos was, undoubtedly, at first hostile, and it is very possible that the Norse settlers were few in number and possessed of very little defensive power. What is most peculiar is that the population of the eastern settlement does not seem to have had any idea of what took place up north, before it was too late, and this shows that the communication between the two settlements at that time must have been extremely slight.

In Ivar Baardsön's above-mentioned interesting description of Greenland, there is a notice to the effect that "he was one of those who were nominated by the law-man to go to the Vestribygd against the Skrälings, in order to drive them out of the Vestribygd." When they came thither they found no human beings, neither Christian nor heathen (i. e. Eskimos) who had thus, at any rate for the time being, again withdrawn towards the north, but only some wild cattle and sheep, which they used for food, and of which they brought back as much as the ships would carry, and sailed home.

From this it seems clear that the western settlement at that period (i. e. somewhere about 1350) had been desolate for some length of time, having probably succumbed about 1325. This view agrees with a passage which occurs somewhat further on in the same description: "Now the Skrälings are masters of all Vestribygd," "now" applying to the time when Ivar had returned to Norway and gave his report, *viz.* about 1370—80.

In the Icelandic Annals there is the following record under the year 1379: "The Skrælings made hostile onslaughts on the Greenlanders, killed eighteen men, but caught two boys, whom they made thralls." This notice must undoubtedly apply to the Eystribygd, and it is the first report of an encounter between its inhabitants and the Eskimos. For all we know it may be one of the first encounters—much earlier they cannot have been.

W. Thalbitzer (in his long treatise in *Med. o. G.* vol. XXXIX, 1912) states that these Eskimos came up from the south i. e. from the east coast of Greenland past Cape Farewell. This is possible and seems to be corroborated by an account of the voyage of the Icelandic chieftain, Björn the Crusader. When returning to Iceland from such a voyage, in the year 1385, he was driven to Greenland, where he spent two years. We are in possession of an extract of the account of his voyage.

"The Greenlanders," it reads, "made the Eiríksfjörðr district over to him, and he received as tribute payment 130 pairs of forequarters of sheep." After this comes the following interesting passage: "At the last he was helped by the chance that he saved two trolls, a young sister and brother, from a skerry which at high tide was under water. They swore him an oath of fidelity, and from thence he never lacked food, for they were clever at the catching of all he might want or require. The troll girl thought it the greatest boon when she was given leave to carry and fondle the male child, which the wife had recently given birth to. She also wished to wear a head-dress like that of the wife, but she made it out of whale-guts. This brother and sister killed themselves by jumping from the rock into the sea, when they were not allowed to go to Iceland with Björn, their beloved master."

How accurate this extract is, it is impossible to say, but there cannot be any doubt that the two "trolls" are Eskimo children. The report seems to suggest that Björn met them *during* his stay in Eiríksfjörðr, which again might point in the direction of the Eskimos and Greenlanders living side by side. But one does not understand how Björn at that place could have been dependent on their assistance for his living. The account would be quite clear if the encounter with the children referred to the time *before* the stay in Eiríksfjörðr (Eystribygd) or to the time hinted at in the quoted extract——"when he was kept for the longest period in Greenland, on account of the sea-ice—where they came to be in want of food for the maintenance of their people. Only when he went down to the sea to look for something to catch, did he happen to see a single combat between a white bear and a walrus, which ever fight to the end whenever they meet, and later on he caught them both." But this must have happened in the desert regions round Cape Farewell, and here Björn may have met the Eskimo children, who in some way or other had been separated from their tribe—which in its turn suggests the above-mentioned migration of the

Eskimos from the east coast and past Cape Farewell up along the west coast. Thalbitzer has drawn attention to the very characteristic description of the Eskimo girl.

This account should, however, not be taken as a proof that the Eskimos who gradually destroyed the Eysribygd principally came from the east, past Cape Farewell. For the greater part they surely came from the north, along the west coast.

In this place I will insert a few remarks on an apocryphical account, found by Finn Magnusson in a Latin MS. (*Annalium in Islandia farrago*) originating from Bishop Gísli Oddsson (G. H. M. III 459). The account reads: "1342 Groenlandiæ incolæ a vera fide et religione Christiana sponte sua defecerunt et repudiatis omnibus honestis moribus et veris virtutibus ad Americæ populos se converterunt— — —Ac inde factum quod Christiani a Groenlandicis navigationibus abstinerent." This notice could not possibly apply to the Vestribygd, as this would be perfectly inconceivable. But it is equally inconceivable that it should apply to the Eysribygd, as it must have been just before the arrival of Ivar Baardsön in Gardar(!). One might be tempted to suppose 1342 to be an error for 1442. This would be more intelligible and would moreover be upheld by the above-mentioned papal brief from 1492. Otherwise the meaning seems to be that the population of the eastern settlement abandoned the Christian faith and instead adopted that of the Eskimos (not that they emigrated to America!) the result of which would in its turn be a closer connection and mixture of races. We must leave this an open question, but of one thing we are sure, *viz.* that from this account no conclusions can be drawn as to the so-called "blond Eskimos" who have been found somewhere on the coast of North America. In direct contrast with this, though otherwise illustrative, is a papal brief to the Icelandic bishops of 1448, which reads as follows: "Sane pro parte dilectorum filiorum indigenarum et universalitatis habitatorum insulæ Groenlandiæ— — —lacrymabilis querela nostrum turbavit auditum, amaricavit et mentem, quod in ipsa insula, cujus habitatores et incolæ ab annis fere secentis Christi fidem— — —servarunt, ac quod tempore succedente in dicta insula populis assidua devotione flagrantibus, sanctorum ædes quam plurimæ et insignis ecclesia cathedralis erectæ fuerunt, in quibus divinus cultus sedulo agebatur, donec— — —ex finitimis littoribus paganorum ante annos triginta (i. e. 1418) classe navali barbari insurgentes cunctum habitatorum ibidem populum crudeli invasione aggressi et ipsam patriam ædesque sacra igne et gladio devastantes, solis in insula novem relictis ecclesiis parochialibus (thus only three churches had been burnt)— — —miserandos utriusque sexus indigenos— — —ad propria vexerunt captivos". Some of these prisoners, however, are said to have returned home and to have longed to re-establish divine service; during these thirty years they must have been without a Bishop and priests (which however cannot



be quite correct). The Greenlanders are said to have turned to the Pope for assistance, for which reason the latter asks the Icelandic Bishops to procure further information.

That there must be some foundation for the contents of this letter is a foregone conclusion, and even though some of the terms are exaggerated and arise out of lack of knowledge of actual conditions, it shows that the situation was very bad and the position dangerous. The burning of homesteads and churches agrees very well with the other information we possess.

After this there are no direct descriptions of the relation between the Eskimos and the population of the Eystribygd, but the ruins of the homesteads of the latter, as well as the traditions of the Eskimos themselves, place it beyond a doubt that its population have gradually perished in their struggles with the Eskimos. The latter, superior not only in number, but also in other respects, attacked the population of one fiord after the other, caught them unawares in the darkness and burnt their homesteads, also killing many by means of well-directed arrows. Of a vividly tragic character is the description of the fight against "the last qavdlunait" Ūngortoq or Olave (Olavik), as he is named in the Eskimo legend (see III section 5). Some time afterwards and also at other times the two races have lived peaceably together and become acquainted with each other; a hint in this direction is the fact that such a name as Olave occurs in the legends. Whether there has otherwise been any communication between them, cannot be said for certain, and speculations on this subject are of little or no interest. The final destruction of the Eystribygd cannot be placed earlier than at the end of the 15th century. If Archbishop Erik Walkendorff had been able to enforce his will during the early part of the 16th century, it is not inconceivable that the last remains of the old colony might have been found alive. But here our description ends.

#### IV.

We have already mentioned the churches and monasteries of Greenland. There is no record of any ecclesiastical literature, nor is anything whatsoever known as to the church life in those parts, but it presumably developed as elsewhere in the northern countries.

From the inscriptions mentioned (page 342) it appears that the worship of the Virgin was common, and in this as in other respects there seems to be close agreement with what is known elsewhere, for instance from Iceland during the 14th century.

Illustrative of conditions in Greenland is, further, the following statement from the saga of Erik the Red: "It was customary in Greenland, after the

introduction of Christianity, to bury men at the homesteads where they died, in unconsecrated soil. A stake was thrust down to the breast of the corpse; then, when a priest arrived, the stake was pulled out and consecrated, water poured into the hole, and hymns were sung over it, even though it only happened at a much later period. It is presumed that this might also take place in Norway, but it can scarcely have been very common there."

Besides the cathedral a number of the churches have been found and the ruins investigated and measured. As to this, as well as to the ruins of homesteads found and the arrangement and size of the farms see the following chapter.

### THE MEANS OF SUBSISTENCE OF THE POPULATION.

It appears from the large quantity of ruins, which have been found and investigated, that the colonists ordered their lives exactly as they were wont to do in Iceland. They imported cattle, horses, sheep, goats and pigs, and throughout the whole period they carried on agriculture and cattle-breeding on rather a large scale. They built their homesteads at the inner parts of the fiords, where there grew and still grows excellent grass, and where, right up to the glaciers, there were good pastures. At the homesteads we have been able to prove the existence of all sorts of stables for cows, horses, and lambs, as well as horse-pens and barns. The account of Ivar Baardsön bears witness to the presence of cattle in the Vestribygd. In the "King's Mirror" we find the undoubtedly correct piece of information: "It is recorded that in Greenland there are good pastures and good and large homesteads (farms); for there are many cows and sheep; butter and cheese are made, and this forms the principal part of their food, as well as meat and every kind of fishing and hunting. They also had out-farms, just as in Iceland and Norway. Stored away in an earth-house (cellar) belonging to an ordinary farmer were once found: 60 killed sheep, 12 hundredweights of butter, besides fish in very large quantities. What Björn the Crusader received or was to receive, has been mentioned above. Agriculture alone was presumably sufficient to feed the population, but to this must be added the wealth of food in lakes and sea, fish of all sorts (as now), the meat of whale and seal, not forgetting the hunting, which might yield all sorts of birds (with the collecting of eggs), as well as reindeer and polar bears. According to all existing accounts the population was very industrious and strong and spared no pains to obtain ample means of subsistence. Not content with the fiords and lakes just outside their own dwellings, they made long voyages, both towards the south and the east (east of Cape Farewell and towards the north, far north of the Vestribygd). An evidence of their voyages is the small above-mentioned runic stone, which was found on a small island north of Upernivik, and the in-

scription of which reads: "Erling Sigvatsson and Bjarne Thordsson and Enridi Oddsson, on the Saturday before Gangdag (April 25th), made this (these) cairns." Nothing is said as to the occupation of these men during the winter; they had either been there as fishers or in order to reconnoitre (with a view to the Eskimos). We know that the Greenlanders were in the habit of going north on their so-called *nordrseta* (i. e. sitting north). There has been a poem of such a journey, the *Nordrsetudræpa*, written by one Sveinn, of which a few fragments still exist, mainly dealing with the gale. The place which they went to was called Greipar, which in rhymes from about the year 1400 is called "the extreme end of the Greenland settlement." In these northern regions they also found driftwood of which they stood in very great need for the construction of their farms and buildings. It is recorded in a late MS. (*Grönl. Hist. Mind.* III, p. 242), presumably quite correctly: "There they also procured the largest quantities of seal tar, for the sealing there was richer than at home in their settlements; the melted blubber was stowed in skin-boats (i. e. boat-shaped skin cases) and hung in barred sheds in the wind until it all hardened, and later on it was prepared as it should be."

Walrus were caught in particular for the sake of the hide, of which ropes were manufactured. These together with the tusks of narwhale and walrus were their chief commodities of export, as is also expressly testified by a passage in the "King's Mirror," "but these wares they export for their wares ——— the buckskins, oxhides, sealskins, and ropes, which have been spoken of heretofore, the which are cut off the fish called walrus and which are called skin-ropes and also the tusks of these fish—" also white falcons and *vadmál* (homespun cloth) are mentioned as commodities of export. Thus there is no doubt that the Greenlanders had abundance of food, even though the weather at times might cause difficulties and bad years occur; nor is there any doubt that they were possessed of courage and bold enterprise to exploit all means of subsistence at their disposal. Grain was never grown in Greenland, except by way of experiment. Of this also there is a record in the "King's Mirror," which reads as follows: "The men there who are the most important and most excellent have tried to grow grain, but the greater part of the people of that country do not know what bread is and have never yet seen it."

It is a matter of course that the brewing of ale was only possible on quite exceptional occasions, and that drinking feasts were upon the whole rare. As a rule conditions were as in the time of Erik the Red himself; the saga describes how sorely depressed he was because he could not regale his guests with drinks, even at Yuletide. Of his grandson Thorkell it is recorded that he had laid by a stock of ale so that he could "give a splendid Yule wassail, and get himself fame thereby, for they seldom had drinking bouts in Greenland."

As regards the *trade*, this was from the very beginning in the hands of  
Greenland. II.



Icelandic and Norwegian merchants, the Greenlanders themselves being as a rule unable to get sea-going vessels. On a single occasion mention is made of a vessel which was certainly built in Greenland and was joined by means of sinews. The historical *Groenlendingaþáttur* which treats of the establishment of the Bishop's See, throws a clear light upon conditions. As the direct communication with Iceland was extremely precarious, and as Iceland itself was not in possession of the commodities which the Greenlanders most of all needed, the Greenland trade would necessarily fall to the Norwegian merchants. The Icelanders had to go by way of Norway to Greenland, and this frequent communication with Norway brought about many results, *inter alia*, that Greenland came under the Norwegian King, and shortly after this event the Greenland trade, as already mentioned, was made a "regale".

In sagas and annals mention is very frequently made of the loss of ships on their way to and from Greenland; navigation was full of perils, as is also very aptly described in the "King's Mirror," partly because of gales and the condition of the ice, and partly also because of insufficient knowledge of the route. We are not, in this place, going to mention the individual ships which have been lost; but it appears from information to hand, that the ships sometimes reached the east coast, in any case east of Cape Farewell, where the crews died of destitution and cold; or they got away alive after great hardships.

During the 13th century navigation became less and less frequent, and in the succeeding period it still further decreased. In a letter from 1308 to Bishop Thórd at Gardar, Bishop Arne of Bergen presumes that the news of the death of King Erik in 1299 had not yet reached Greenland.

*The daily life* in winter and summer was to all intents and purposes as in Iceland: during the summer hay-making, the chief object of which was to lay by the largest possible store for the winter, and at the proper season fishing, whaling and hunting; during the winter the various female occupations in the farms, the spinning and weaving of wool, as evidenced by the fragments of soapstone spindle whirles, found in the ruins.

To home industries must also be reckoned the making of various dishes, vessels and other implements of *tálguasteinn* (soapstone) "stone which can be carved with knives," as it is called. Of these also many fragments have been found.

Soapstone is mentioned in Ivar Baardsön's account: "And on that island (i. e. Hreinsey, Akia) there is the best tallow-stone (the correctness of this statement has been proved in recent times) to be found in Greenland, so naturally good that pots and cans are made thereof; this stone is so firm that fire cannot destroy it, and cans made of one stone are so large that they hold 40 or 48 bushels. It is this kind of stone which is called "marble of different colours, red, blue and with green stripes." Furthermore, they

also manufactured implements, for instance of whalebone, which was all the more necessary, as iron was very badly needed.

*Clothes* were, as elsewhere in the northern countries, made of wool and skins. Of weapons and war clothes there have only been small stores, apart from what were properly speaking tools as, for instance, axes. In 1132 a coat of mail is mentioned, old and undoubtedly much worn; it was offered as part of the fine to be paid for a dead man and was thus considered a rarity. This also throws a clear light on the manner of life which in this as in all other respects was poor.

The spiritual life resembled that of Iceland. Of literary production we know nothing, but the colonists brought with them from their homes the taste for poetry and recitation of and entertainment by poems, as well as the telling of sagas of which interesting evidence is to hand. We have already mentioned that the chieftain, Thorgrim, entertained people at the Althing in exactly the same manner as was the case in Iceland, and from this it may again be concluded that this kind of entertainment was customary in Greenland.

No less important as an entertainment or spiritual occupation were "lays", and of these somewhat more positive data are available.

There are records of "skalds" in Greenland, as, for instance, that Sveinn who composed the Nordrsetudrápa (see above) and Thórhallr "the huntsman," of whose poems two stanzas are included in the saga of Erik the Red. The Iclander Skáldhelgi (i. e. Helgi the poet) in the 11th century emigrated to Greenland, where he was made a law-sayer. Concerning Skáldhelgi, whose son was likewise a poet, we have the interesting *rimur* (rimes) dealing with his love story, which partly takes place in Greenland. Such men have undoubtedly contributed towards keeping up the taste for poems and the art of poetry. The denomination of the "Greenland meter," known from Snorre Sturluson's Háttatal, testifies to an independent treatment of the meters. The most interesting evidence of this is, however, the Greenland "Atlamál" among the poems of the Edda. The name as well as intrinsic reasons are decidedly in favour of the supposition that the poem was composed in Greenland, presumably about the middle of the 11th century. It is written in *málahattr* (lines of 5 syllables) and is the longest Edda poem. It deals with the story of King Atle and his relation to Gudrun and her brothers, treating of the murder of the latter and the revenge of Gudrun (Atle's death). This poem testifies to the fact that the old heroic legends were known in Greenland, and further to the existence of a deviating version of the legend due to an independent development either in Greenland or elsewhere. In several other ways this poem bears witness to its Greenlandic origin. The scenery is Greenlandic; the journey takes place across a fiord to the country of Atle, and the heroine rows; then, and this is an extremely strong proof, a *polar bear*, coming from the east, appears in a dream. The ideas

of a king and a king's life are extremely narrow; thus the queen is called housewife, and the wife of Gunnar entertains the guests in the manner of an ordinary farmer's wife. The retinue of the sons of Gjuki only consists of five persons, the *hird* (body-guard) of King Atle of thirty, and he expresses his deep regret at the great loss of fifteen men! There is something trivial and unpoetical about the whole poem; the description of the manner in which Gudrun kills her sons is actually brutal and coarse. The characterization has been degraded from the saga-heaven of poetry to Greenlandic soil, but the poem nevertheless contains powerful and picturesque descriptions.

It is tempting to suppose that a few more poems have been composed in Greenland; but there are no absolutely decisive proofs. There can hardly be any doubt that the poems of the Norwegian Edda were known in Greenland, and there have led to a poetic literature, the scope of which is not known, but which becomes an Icelandic epigon poetry, not without interest and significance to the Greenland community.

In the above-mentioned poem liberal use is made of the motif of dreams. This is of course not particularly characteristic of the Greenlanders, though it shows a phase of their spiritual life, closely allied to the belief in supernatural beings, with ghosts and similar phenomena, which figure so largely in the sources. Particularly in the saga of Erik the Red we get very characteristic accounts of ghosts and their doings, which seem to suggest other conditions than those in Iceland, in particular the feeling of a burdensome life, of the long period of darkness and the great isolation and loneliness, in which respect life in Greenland only compared with a few of the most isolated regions of Iceland. Connected with this is the belief in witchcraft, which is so very pronounced in Greenland. In the *Fostbroedrasaga* are mentioned two women versed in witchcraft, of which one rides abroad at night after the manner of a witch; this was an inheritance from Norway, which partly also occurs in Iceland.

In the saga of Erik the Red such a sorceress (*sibyl*) is described in a manner so characteristic and vivid that we feel justified in quoting the description in full. It is unique in the whole of ancient literature and reads as follows:

"There was a certain woman in the settlement there whose name was Thorbjörg. She was a prophetess and was called "Little Sibyl". She had nine sisters, all of whom were prophetesses, but she was the only one then alive. It was Thorbjörg's custom in the winters to go to entertainments, and she was especially sought after at the homes of those who were curious to know their fate, or what manner of season might be in store for them; and in as much as Thorkell was the chief yeoman in the neighbourhood, it was thought to devolve on him to find out when the bad year which had come upon them would cease. Thorkell invited the prophetess to his home, and careful pre-



parations were made for her reception, according to the custom which prevailed when women of her kind were entertained. A high seat was prepared for her, in which a cushion, filled with poultry feathers, was placed. When she came in the evening with the man who had been sent to meet her, she was dressed in a dark blue cloak, fastened with a strap and set with stones right down to the waist; she wore glass beads around her neck, and upon her head a black lamb skin hood, lined with white cat-skin. In her hands she carried a staff, upon which there was a knob, which was ornamented with brass and set with stones about the knob. Circling her waist she wore a girdle af hnjósk<sup>1</sup>, and attached to it a great skin pouch, in which she kept the *charms* which she used when she was practising her sorcery. She wore upon her feet shaggy calfskin shoes, with long, tough latchets, upon the end of which there were large tinbuttons. She had catskin gloves upon her hands, which were white inside and lined with fur. When she entered, all the folk felt it to be their duty to offer her becoming greetings; she received the salutations of each individual, according as he pleased her. Yeoman Thorkell took her by the hand and led her to the seat which had been made ready for her. Thorkell bade her run her eyes over man and beast and home. She had little to say concerning all (of these). The tables were brought forth in the evening, and it remains to be told what manner of food was prepared for the prophetess; a porridge of goats' milk was made for her, and for meats there were dressed the hearts of every kind of beast, which could be obtained there. She had a brass spoon and a copper knife with a handle of walrus tusk, with a double hasp around the haft, and from this the point was broken— — — and on the morrow when the day was far spent, such preparations were made as were necessary to enable her to accomplish her soothsaying. She also bade them bring her those women who knew the incantations, which she required to work her spell, and which were called *vardlokur* (i. e. wardlocks); but such women were not to be found. Thereupon search was made throughout the house to see whether anyone knew this. Then says Guðríd: "Although I am neither skilled in the black art nor a sibyl, yet my foster-mother, Halldis, taught me in Iceland that spell-song which she called wardlocks." "Then thou art lucky in thy knowledge," said Thorkell. She replied: "This is of such a kind, that I do not mean to lend it any aid, for that I am a Christian woman." Thorbjörg said: "It might be so, that thou couldst give thy help to the company here, and still be no worse woman than before; however I leave it with Thorkell to provide my needs." Thorkell now so urged Guðríd that she said she must needs comply with his wishes. The women then made a ring round about the spellðaís, but Thorbjörg sat up on it, and Guðríd then sang the song so sweet and well that no one there present remembered ever before having heard the melody sung with so fair

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<sup>1</sup> The meaning of this word is uncertain.

a voice as this. The sorceress thanked her for the song and said: "Now many of the spirits have been lured hither and think it pleasant to hear this song sung so well, who were wont to forsake us hitherto and refuse to yield us their help; many things are now revealed to me which hitherto have been hidden, both from me and from many others. And I can tell thee, Thorkell, that this bad year will not last longer than this winter, but the season will mend as spring approaches. The disease which has been upon thee so long will also disappear sooner than expected, but thee, Gudríd, I shall award out of hand, for the assistance, which thou hast vouchsafed us, since the fate in store for thee is now made manifest to me. Thou shalt make the most worthy match here in Greenland, but it shall not be of long duration for thee, for thy path leads out to Iceland, and a lineage both great and goodly will spring from thee, and above thy line greater rays of light shall shine than I have power clearly to unfold, but now farewell and health to thee, my daughter."

"After this the folk went to the sibyl, and each besought for information about that which he was most curious. She was good in her responses, and little of that which she foretold failed of fulfilment. After this they came for her from the neighbouring farmstead, and thereupon she set out thither."

I am of opinion that the sorceresses mentioned here (sibyls) are, as it were, directly imported from Norway, where similar phenomena are known. The account contains many extremely interesting details; the staff (*völtr*, from which *völva* is derived), which was apparently used as an instrument in the practising of sorcery, the incantation (*vardlokur*) (cf. M. Olsen in *Maal o. Minne*, 1916) the company of singers (in Norway there were always several together) and the skin pouch with the charms; what the latter were is uncertain, but in all probability they only consisted of rare and odd-looking trifles, partly of a rather sinister appearance; cf. such things as have been found in Denmark in a small copper vessel and in a skin pouch (*Vor Oldtid*, pp. 422—23).

Finally, it must be observed that the knowledge of runes as in Iceland survived throughout the whole period, though there is only little evidence. In the above-mentioned poem Gudrun carves runes to her brothers, but the messenger corrupts them.

Kostbera, the wife of Högne, had knowledge of runes; she tried to read them by firelight, but she had difficulty in making them out, and from this poem we have the old proverb "only few are sufficiently versed in runes." There is no doubt that this is a valuable reminiscence of Greenlandic culture. From a much later period we have the runic inscriptions, which have been quoted above. In one of them there are, towards the end, some secret runes, which seem to suggest that in Greenland, as elsewhere, runes have been supposed to possess a supernatural power. These runes have not yet been interpreted with any certainty.

The *political life*, as already suggested, developed chiefly along the same lines as in Iceland, names and institutions being the same. The sessions of the Althing were, as already mentioned, held at Gardar, for which reason it was also called the Gardar-Thing. It must be assumed that in this place there was, as already mentioned, a *lögretta*, and at the head of this institution a law-sayer, who repeated the "Greenland law" which was probably modelled on that of Iceland, though as to this we know nothing whatsoever. There also were *godi* (sacrificial priests or parish chieftains), but naturally only in the sense which this word had after the introduction of Christianity, and they were exclusively political chieftains. The Icelandic law-book, *Jónsbók*, by King Magnus Lagaböter, was also ordained to apply to Greenland. The law-sayer was then, as in Iceland, replaced by a law-man, and this is the reason why *Skáldhelgi*, who must have been a law-sayer, in the *rimur* is called a law-man.

The proceedings of the Althing and the course of the latter was exactly as in Iceland, which is clearly shown by the historical *Groenlendingathátt*, and here as there the predominance of the chieftains and the *godi* made itself strongly felt.

#### APPENDIX.

##### The Discovery of Vinland (America).

As to the discovery of a country farther west than Greenland, two accounts are preserved, one in the saga of Erik the Red, the other in a so-called *Groenlendingathátt* (in the *Flateybók*). According to the former it was Leif who, on his voyage from Norway to Greenland, in the year 1000, was driven west by gales, and there found a country which, however, he did not explore. According to the second account it was one Bjarni, the son of one of the early settlers in Greenland, who, when sailing from Iceland with a view to visiting his father in Greenland, was, in a dense fog, forced to a land towards the west. Like Leif, he did not explore the country discovered, and only after a period of fifteen years his discovery caused an expedition to be undertaken from Greenland, with the object of re-discovering and exploring the country. This account is in itself improbable, and as the *Groenlendingathátt* otherwise contains many absurdities and improbabilities, G. Storm seems to be justified in refusing to consider it in his investigations on the subject. The saga of Erik the Red, on the other hand, forms a compact whole and is much more rational, with its one voyage, which has been replaced by several in the other corrupt version of what is undoubtedly the same event.

After Leif had discovered the country and come to live in Greenland, it was his brother Thorsteinn who, according to the saga, is said to have lived in *Lýsufjördr* (in the *Vestribygd*) and who now felt tempted to undertake the voyage to the newly discovered country. However, he failed in the



attempt; he was caught in severe storms and greatly tossed about in the sea south of Greenland and Iceland, and finally he had to return to Greenland, where he soon died from illness.

Shortly afterwards a trader, Thorfinn Karlsefni, of distinguished Icelandic parentage, arrived in Greenland, where he wintered in the house of Erik the Red and married Gudríd, the widow of Thorsteinn. He heard the account of the country which had been discovered and, making up his mind to explore it, he set off together with his wife (who in Vinland gave birth to a son), Thorvald, the brother of Leif, their sister Freydis with her husband, Thorvard, and several others, who are also mentioned.

The account of Leif's discovery is quite brief. He found a country, where there were fields of self-sown wheat and grapes; there were also the trees which they called *mösur* (i. e. maples) and they took samples of all this, besides timber which might be used for houses.

As to the voyage of Karlsefni, it is said that they sailed on and first arrived in a country where there were many flat stones of rather large dimensions, and also foxes; they called it Helluland (*hella* i. e. a flat, thin stone). After having sailed from there for a couple of days they arrived in another country covered with woods, which they called Markland (*mörk* i. e. wood), sailed farther along the coasts which they named, and finally arrived in the third country, where they found grapes and fields of self-sown wheat or, in other words, the country which they presumed to have been discovered by Leif, and they called it by the name of Vinland.

Karlsefni made a stay of three winters (years) in these places, and everywhere he explored the surrounding localities. Also human beings were met with (in all probability rather Eskimos than Indians), the so-called Skrälings who, after having lived in peaceable relations with their foreign guests, became hostile and attacked them, and during one of the fights Thorvald received a mortal wound. The description of these "Skrälings" is very accurate and interesting. Karlsefni succeeded in catching two boys who were taken along and taught the old Norse language. The saga records four Eskimo names which, however, are rather Eskimo words than names. This expedition was the last of the voyages to and explorations of Vinland: Karlsefni and his men were of opinion that no colony could thrive there on account of the relation to and the danger from the Eskimos. All this happened at the beginning of the eleventh century.

It has been a much debated question what countries they were which Karlsefni discovered and explored; whether they were the same which were discovered by Leif is a question apart and in itself rather indifferent. In his treatise, the first important work on this subject (Aarbøger 1887), G. Storm identified the three principal countries: Helluland with the east coast of Labrador, Markland with Newfoundland and Vinland with Nova Scotia and Cape Breton.

In "The Voyages of the Norsemen to America" (1914) Prof. W. Hovgaard has subjected the whole of the question to a renewed, thorough investigation, but arrives at a somewhat different result. As to this, however, the reader is referred to the book itself.

In his "Nord i Taakeheimen" Fridtjof Nansen maintains that practically all that was told of the newly found country (Vinland) was based on legends of *Insulæ fortunatæ* (or an Elysium farthest towards the west), not upon actual facts. This view, however, is scarcely correct.

Besides those already mentioned, there are a number of papers on Vinland and the problems bearing upon it. In this connection mention is only to be made of "The Norsemen's Route" by the late Professor Steensby. In this paper he maintains that Thorfinn Karlsefni had entered St. Lawrence River, which he investigated, and that the regions explored by him were the immediate surroundings of this river. Steensby made an attempt at identifying in details the localities mentioned in the saga. Even though it may not be possible to substantiate this theory in all its details, the present author is nevertheless of opinion that the former solution of the problem is the most natural one.

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# OLD NORSE FARMS

IN

THE EASTERN AND WESTERN SETTLEMENTS

BY

Captain DANIEL BRUUN

## INVESTIGATION OF THE RUINS

**D**uring the first years after the re-discovery of Greenland there was no one who doubted that the western and eastern settlements (the Vestribygd and the Eystribygd) had both lain west of the south point of Greenland. By a mistake arising, as demonstrated by K. I. V. Steenstrup, from a Greenland map prepared in 1668—69 by Bishop Thjodur Thorlacius, the eastern settlement was moved to the east coast, where subsequent investigators and explorers thought that they should look for it.

Hans Egede, who came to Greenland in 1721, was the first to identify, as Norse remains, the ruins of houses, etc., found in West Greenland, but he thought that it was the western settlement only, and that the eastern settlement would be situated on the east coast of Greenland, where he resolved to look for it. With this end in view he undertook, in 1723, a voyage from Godthaab in a southern direction, intending, if possible, to get round Cape Farewell to the east coast; but he did not even reach the south point of Greenland, as the Eskimos accompanying him refused to go farther than Nanortalik. He inspected several ruins in the present Julianehaab District, among others the church at Qaqortoq (Hvalsey Church). He also found several ruins in the Godthaab District, for instance, in Ameralik Fiord.

At the instigation of Hans Egede some young men left Europe and came to Greenland as colonists, among them Peder Olsen, also called Walløe, who in the years 1751—53, on behalf of the Greenland Board of Directors and the Missionary College, undertook a voyage of discovery to South Greenland, in the course of which journey he succeeded in penetrating to the south of Cape Farewell and a short distance up the east coast. He described the most important ruins in Tunugdliarfik, the Agdluitsoq Fiord, the Uniortoq Fiord and part of the Igaliko Fiord. Another of the Norwegian colonists Anders Olsen, a Greenland merchant, founded the Julianehaab settlement and the cattle breeding farm at Igaliko, where some of his descendants still live. He was the first Greenland farmer of more recent times, and besides examined and described a great number of ruins.

In the year 1776 the missionary E. Thorhallesen, an Iclander by birth, published an interesting little book relating to the Godthaab District, "Efterretning om Rudera eller Levninger af de gamle Islænderes Bygninger paa Grønlands Vestkyst." In this work he mentions several ruins in the region, which he himself had seen, and in the Julianehaab region, which he describes chiefly on the strength of investigations made by Anders Olsen.

After the foundation of the Julianehaab settlement Andreas Bruhn, a merchant, and Aron Arctander, assistant of the Royal Greenland Trading Company, undertook a voyage in the Julianehaab District (1777—79), in the course of which they examined a number of ruins, which they subsequently described.

On the strength of their investigations, Heinrich Peter van Eggers, although he himself had never visited Greenland, demonstrated in 1772 the situation of the eastern settlement in the Julianehaab District and of the western settlement in the Godthaab District, and though his theory was at one time strongly attacked, it has, in the main, been corroborated by subsequent investigations. The well-known mineralogist Giesecke, who visited Greenland (1806—13) mentions ruins in many localities, and the Iclander Sigurdur Breidfjörð, working as a cooper in Greenland (1831—35) mentions in his writings that the Norse ruins found in Greenland bore evidence to the fact that the farms must have resembled those he knew in Iceland.

In "Grønlands historiske Mindesmærker" (an impressive work on the historical monuments of Greenland) O. C. Rafn maintained the correctness of the theory of Eggers. He was all the more confirmed in this belief as Captain A. V. Graah of the Royal Danish Navy, who made an umiaq expedition to the east coast of Greenland (1823—31), found no Norse ruins there. Both in the Julianehaab and the Godthaab Districts investigations of the Norse ruins were carried on by several clergymen and officers of the Royal Greenland Trading Company, and these investigations furnished the basis of the opinion set forth by Rafn that the eastern as well as the western settlement were situated on the southwest coast of Greenland.

In the work mentioned above I. I. A. Worsaae, the well-known authority on northern archeology, gave a description of all the ruins then known, which description was based on the complete existing material. The latter work was finished in 1845, and until 1876 no essentially new accounts of the old Norse ruins were produced. In that year, on the initiative of Professor F. Johnstrup, the Commission for the Direction of Geological and Geographical Investigations in Greenland (the Greenland Commission) was formed.

Mention should, however, be made of H. Rink who (from 1848) spent twenty years in Greenland as inspector of the Royal Greenland Trading Company, and who deserves great credit for his investigations in that coun-

try. Rink was very much interested in the old Norse ruins of which he mentioned several, and he also supported the theory of Eggerts.

The first expedition under the auspices of the Greenland Commission was sent out in 1876. It consisted of the geologist K. T. V. Steenstrup and Lieutenant (now Captain) Gustav Holm of the Royal Danish Navy, who when occasion offered, delineated and measured a number of the old Norse ruins in the Julianehaab District. In 1880 Holm was entrusted with the task of superintending the excavations and making ground-plans of the group of ruins in the Julianehaab District. The work accomplished by this expedition is of the highest merit, survey maps being prepared of a number of the most important groups of ruins and some excavations undertaken.

At the Americanist Congress held in Copenhagen 1883, Steenstrup summed up the results obtained, but in the same year Adolf Nordenskiöld believed he had found Norse ruins at Angmagssalik and thus again started the idea of the eastern settlement being situated on the east coast of Greenland.

About the same time Gustav Holm and T. V. Garde undertook their umiaq-expedition from the south point of Greenland along the east coast where Holm found Eskimos at Angmagssalik, but no Norse ruins anywhere. The question as to the situation of the eastern settlement was, however, then settled once for all, the answer being that it had been situated on the west side of Greenland in the Julianehaab District.

In the Godthaab District (the old Vestribygd) Lieutenants I. A. D. Jensen and C. Ryder of the Royal Danish Navy undertook, in the eighties, occasional investigations of the Norse ruins, and the latter made a catalogue of the ruins of Godthaab Fiord hitherto known, based on the notes of the well-known authority on the Greenlandic language, Samuel Kleinschmidt.

In spite of all of these researches carried on in the old Norse settlements of Greenland, full certainty had not as yet been attained as to the meaning of each individual group of ruins. Several of the churches had been found, and besides it had been proved that some of the ruins were stables; others were pens etc., but no one had been able to identify the dwelling-houses, and as to the arrangement of the farms, there was a general uncertainty.

Meanwhile, in 1889, the Icelfander Valtyr Gudmundsson wrote a treatise from which, for the first time, it was possible to form a clear idea of the general appearance of the Norse farms and dwellings within the saga period, particularly in Iceland. As far as Greenland was concerned, Steenstrup as well as Holm had already conjectured that the dwellings must be looked for among the dilapidated ruins in the groups, and not, as had hitherto been supposed, among the best preserved ruins.

In 1894 the Greenland Commission appointed the author to undertake archæological investigations in the Julianehaab District, with the special



task to solve the dwelling problem by means of excavations; and, as might be supposed, the dwellings as well as the farms turned out to be of a pronounced Icelandic type.

In the course of the summer, investigations were made in the central parts of the old Eystribygd and particularly in the following fiords: Sermilik (Isafjördr), Tunugdliarfik (Eiríksfjördr) and Igaliko Fiord (Ejnarsfjördr), and the interjacent tracts were also visited. Excavations on a large scale were undertaken in the dwellings at Qagssiarssuk in Tunugdliarfik (Brattahlíð, the farm of Erik the Red), at Igaliko (Gardar, the old Bishop's See), at Qagssiarssuk in the eastern branch of Igaliko Fiord (the Norse farm: undir Höfða in the Austfjördr) as well as in a few more localities at Sermilik and Tunugdliarfik. By means of these excavations the problem of the dwellings was solved, while sketches were made of a large number of groups of ruins, which had hitherto not been identified or described in detail.

In the same year Lieutenant Carl Moltke of the Royal Danish Navy undertook an expedition to the Julianehaab District. He was accompanied by the geologist A. Jessen and Lieutenant Frode Petersen of the Royal Danish Navy, and during the latter part of their stay in Greenland they assisted in the above-mentioned archaeological investigations. Thus Petersen measured a number of ruins situated in the fiords immediately south of Julianehaab.

After the identification of the dwellings among the Norse ruins in Greenland it was not difficult to unravel the problem of the general arrangement of the farm (see below).

Professor Finnur Jónsson in "*Grønlands gamle Topografi efter Kilderne*" (Medd. om Grøn. XX) was able to identify individual fiords and farms by comparing the groups of ruins hitherto found with the most reliable early sources, such as the *Landnámabók*, the lists of fiords (later copies of which were made by Björn Jonsson and Arngrimur Jonsson) dating from the 17th century, Ivar Baardsón's description of Greenland from the 14th century, and finally a special inventory of churches in the *Flateybók*. In the main, the theory of Eggers still held good, though with the essential modification that the situation of Brattahlíð was now referred to the west side of the Tunugdliarfik Fiord (at Qagssiarssuk), whereas it had hitherto been supposed to lie at Igaliko in the fiord of the same name. On the other hand the Bishop's See Gardar was proved to have been situated at Igaliko.

In the years following upon these investigations in Greenland the present author visited Norway, the Faroe Islands and Iceland, whence Greenland's civilization originated, and here he undertook archaeological investigations relative to the manner of living and building in the olden times. Consequently, there was, in several respects, a better foundation to start from when in 1903 he visited the Godthaab District or the old Vestribygd, to undertake investigations similar to those which had already been undertaken in the eastern settlement. Accompanied by O. Bendixen, then

inspector of South Greenland, and a printer called John Møller (the son of the well known Greenlander Lars Møller) the author now investigated the fiords inside Godthaab, in particular Pisigsarfik, Ameralik, Ameragdla and Itivdleq, in the course of which investigation a number of unknown groups of ruins were found. Excavations were undertaken principally in a churchyard at the head of Ameragdla, the continuation of Ameralik (most likely the Lýsufjörðr of the olden times); later on the first dwelling of Hans Egede (at Igdluerunerit) was found on an island outside Godthaab Fiord, and then they continued farther south along the coast and visited the isolated groups of ruins by the Agdlumersat and Fiskernæs fiords, and tried to link up the present researches with those of 1894, investigating the fiords in the northern part of the old Eytribygd, which up to now had remained more or less unexplored. At the fiords north and south of Arsuk there proved to be in all eighteen groups of ruins, seven of which had formerly been mentioned by Dr. G. Fanøe (*Aarbøger for Nord. Oldk. o. Hist.* 1873). By means of these investigations the northern boundary of the eastern settlement was carried far northwards to Tigssaluk (north of Arsuk Fiord), while the southern boundary of the western settlement was supposed to be Ameralik Fiord (Lýsufjörðr), which agrees very well with the old statement that it was "a six days' row with a six oars' boat" between the eastern and the western settlement.

The isolated groups of ruins along Agdlumersat and Fiskernæs fiords evidently did not, strictly speaking, belong to either of the two settlements.

Mainly through the investigations of Holm in 1880 and the present author in 1894 the southernmost and central parts of the eastern settlement had been subjected to a more detailed examination, and now the northernmost part of the eastern settlement was visited; but for all that the identification of several localities mentioned in the old writings is far from being indisputable, and until, at any rate, all the churches have been found, there will still be a great deal of uncertainty.

Mogens Clemmensen, a Danish architect, visited the Julianehaab District in 1910, chiefly in order to study the church at Qaqortoq (Hvalseyjarfjörðr). At the same time he also visited other Norse ruins, but, in vain looked for any of the hitherto unidentified churches. At Igaliko (Gardar) he thought he had found the place where the Althing was held.

Later on (1912) some ruins were incidentally discovered by the scientists K. Stephensen and Birket-Smith along the fiords between the centre and the northernmost part of the eastern settlement, Ikerssuaq (the Breidafjörðr of the old Norsemen) and Sermilik (Isafjörðr), and in 1913 Rev. Erik Jespersen found ruins about four miles to the east of the Qagssiarssuk Bay in the vicinity of the inland ice.

The archæological researches, undertaken in 1921 by Poul Nørlund, Ph. D. at Herjólfnes are described in a special chapter. The results of the combined geological-archæological expedition which was undertaken, in

1926, to the Biskops Sec. Gardar, under the command of the geologist Knud Jessen, Ph. P. and Poul Nørlund, have not yet been published.

## THE NORSE HOMESTEADS.

### INTRODUCTION.

The old Norse settlers, who came over to Greenland with Erik the Red, arranged their farms at the deep fiords and sought their means of subsistence exactly as in Iceland, with modifications necessitated by the somewhat different natural conditions. They built, as we shall later examine in details, houses of a similar kind to those in their motherland, raised cattle, captured seals and whales and hunted, so that altogether their life by no means seemed so hard as might have been expected when dealing with Greenland. Indeed, in certain respects they were even better off than at home in Iceland, especially as regards sealing and whaling.

Though the west coast of Greenland, as far as inhabited by the old Norsemen, only lies in latitudes corresponding with those of Oslo, Bergen and Trondhjem, yet the presence of the ice masses and the Polar Current cause the climate and the natural conditions to be more like those of the very northermost part of Norway or of the north of Iceland. The climate is, consequently, a pronounced Polar climate, and about the end of August the short summer of Greenland is nearly over. However, it is still possible to meet with comparatively warm days at the beginning of September, but thin ice soon begins to form on the waters, and the fiords are frozen over by the end of October or the beginning of November; the weather becomes more inclement, northerly winds predominate, gales spring up, and the mists which often prevail during the summer, disappear.

In the fiords where glaciers debouch, calved ice and icebergs from the glaciers are met with the whole summer, and also floes from the pack ice lying outside the coast often penetrate into the fiords. In winter the fiord ice makes a bridge between the coasts, thus facilitating communication, and the fact that the old Norse settlers made use of sledges on the ice is indisputable.

It is only when following the frequently long and narrow, deeply indented fiords into the interior of the country, that the *vegetation* begins to appear, here and there even attaining a comparative luxuriance, quite equal to that of Iceland. It was particularly in those localities that the Norse settlers took up their abodes in order to rear cattle. The cultivation of grain being more or less out of the question in the inclement climate of Greenland, the farming of the Norse settlers had to be based exclusively on the pasture lands, and, therefore, all their efforts were directed towards the breeding of cattle as they had been in their native country.



The Norse homesteads were for the greater part situated near the banks of the fiords, although there were many farms in the interior of the country, especially in two parts of the eastern settlement, *viz.* in the undulating, not particularly elevated piece of ground abounding in water, between the Tunugdliarfik Fiord (Eiríksfjörðr) and the Sermilik Fiord (Ísafjörðr), as well as in the tracts between the Igaliko Fiord (Einarsfjörðr) and the Agdluitsoq (Siglufjörðr) which tract was named Vatnahverfi on account of its many lakes.

Also in the western settlement there were regions at the inner parts of Godthaab Fiord and Ameralik Fiord (Leirufjörðr) where many Norse farms were situated at some distance from the banks of the rivers. On the whole it may be said that wherever in these regions there was a possibility of building a farm, ruins of such are to be found, and in many places large, frequently fenced-in homefields, strewn with ruins of dwelling-houses, stables, pens etc. are still to be seen.

Whereas good pastures are found in the vicinity of many of the groups of ruins, in the case of others one is surprised at the scantiness of the vegetation. In ascending the mountains, however, one discovers on ledges and in small valleys, also on the highland plateaux rather good pastures, where the cattle not only were able to sustain life, but from which the Norse settlers could also carry home some hay for winter feeding.

At the sheltered heads of the large fiords there are copses of birch and willow and vegetation which in comparison with other parts of Greenland is quite abundant, but in fields on the mountains only the very hardiest of the Arctic plants are able to grow, and the highest tracts are apparently devoid of vegetation. Near rivers and bogs the vegetation, however, is sometimes extremely luxuriant, and it is a splendid sight to see a landscape of this kind in all its summer glory.

In the rivers there were and are still salmon, along the fiords birds and fish, off the coasts seal and in the heights foxes and snowhares, here and there reindeer, also polar bears, walrus, the tusks of which, in the Norse period, were a valuable article of export, and white falcons, exported for sporting purposes, while eggs and feathers were gathered in the breeding places. To this must be added the domestic animals of the Norse settlers: horses, cows, sheep and goats, all of which were originally imported.

## BUILDING MATERIAL.

### STONES AND EARTH (TURF) AND TIMBER.

Nowhere in the Scandinavian countries, from where civilization spread to Iceland and Greenland, are there so many and so well preserved ruins of homesteads with dwelling and out-houses as are found in Greenland. For,

whereas the Greenland settlements ceased to exist about the end of the Middle Ages, and the farms were left unoccupied until the houses collapsed or were covered with vegetation, in Scandinavia new buildings have constantly been added to the old dwelling-places, and the older types of buildings have everywhere disappeared. In Iceland and the Faroe Islands the oldest manner of building has been maintained nearly unchanged up to our times, but now it is also disappearing. A number of old house sites from the Middle Ages are, however, happily still to be found on the table land of the interior of Iceland, where depopulation has taken place, and these, as well as the conclusions to be drawn from old sagas greatly facilitate attempts to define the use, the manner of building etc. of the Greenland house ruins.

In Iceland and Greenland the surface has not, as elsewhere, in any noticeable degree been disarranged by the spade or plough, as no grain was grown there. With the exception of a few "gardens," where kitchen vegetables etc. were grown, the areas of Iceland and Greenland were only used for hay fields and pastures for domestic animals (horses, cows, sheep and a few goats), and the fields surrounding the dwelling houses of the farms were manured to produce a sufficient crop of grass, but had not been touched for a considerable number of years. Consequently, the old buildings have been left in peace until the present time, and are thus a perfect treasure-trove for students of the old manner of building and old conditions of civilization.

It is a matter of course that the Norsemen who came to Greenland with Erik the Red, began to build farms in conformity with the natural conditions of the country, using the building material at hand and the manner of building as in their home country, the conditions of nature and existence being, as already indicated, practically the same in both countries.

The situations of the Norse homesteads in Greenland naturally depended upon the possibility of laying out a manured homefield (*tún*), preferably in the vicinity of running water; also it was of essential importance that the neighbourhood should supply grass and fodder in sufficient quantities for the maintenance of the cattle, and finally great stress seems to have been laid upon the possibility of establishing a fairly easy communication with the outer world. All these conditions being present, the necessary buildings were erected, first and foremost *dwelling-houses* and stables for the domestic animals.

The *building material* at the disposal of the Norse settlers in Greenland chiefly consisted of earth, grass turf and stones. A characteristic feature of Iceland and Greenland, as resulting from the climate, is the slow mouldering of all vegetable matter. The result of this slow process is that the layer of turf acquires an unusual compactness and, consequently, lends itself very well for use as building material; indeed, in Iceland it is even used as an underlayer for pack-saddles, without undergoing any noticeable change for

several years. On the other hand, it takes generations before new vegetation again covers the places from which the turf has been removed.

The building material used in Iceland from the oldest times and very nearly to the present day chiefly consisted of earth, grass turf, stones, and, in a lesser degree, timber, the latter only being found in comparatively insignificant quantities.

Exactly the same thing happened in other parts of Scandinavia, with few or no forests, as, for instance, the Jæder in Norway, Gothland in the Baltic and several other places where remains of buildings from the very oldest times have been found, but nowhere more so than in Greenland. There the only timber used in the building of houses would be drift wood, so that the Norse settlers were obliged to build their dwelling-houses as well as out-houses, principally of earth, grass turf and stones.

Everywhere on the globe man has arranged his dwelling in conformity with existing conditions, and in this context it must be mentioned as a characteristic fact that people of such widely different races as Norsemen, Lapps and Eskimos, under primitive conditions have made use of the same building material for their dwelling-houses. Walls of grass turf make warm rooms, and the warmer the fewer stones employed, but, on the other hand, they lack solidity unless layers of stones are likewise used, at any rate for the foundations. The combination of turf and stone, with a preference for turf, is consequently best suited for the climates of Iceland and Greenland, at any rate if recourse was only to be had to the local building material, a *sine qua non* in the Middle Ages, when foreign building materials would be far too expensive to import in any large quantities. In Iceland as well as in Greenland there were birch woods, or rather copses, but on account of their small dimensions the trunks were not suitable for the building of houses, and could at best be used as an auxiliary material, chiefly in roof construction. In Greenland driftwood was of great importance as a building material, being gathered along the shores in the vicinity of the settlements, or on the long summer journeys to Króksfjardarheidi and Greipar (the tracts north and south of Disko). Furthermore, it was also possible to import some timber from Norway, as long as navigation was feasible.

Through excavations in the Greenland house sites a good deal of charcoal has been found, and this has helped towards ascertaining some of the kinds of wood used for implements. Specimens have been investigated by the late Professors Rostrup, and Warming, and Dr. Kolderup-Rosenvinge, who arrived at the result, that the kinds of wood used were *birch*, principally grown in Greenland, and *conifer*, of which the majority were undoubtedly pine, but perhaps also spruce fir, some of which had probably been imported.

As a rule the stones used for the house walls do not seem to have been hewn; natural, larger or smaller stone blocks, were selected for this particular use, and wherever the country round the homesteads contained a variety



of stones, which through precipitation and disintegration had come to form fairly sharp slabs, it was comparatively easy to supply the material required. In the regions where red sandstone was found, as in the Tunugdliarfik Fiord, it was even possible to build walls with fairly horizontal joints, and also granite, which splits up into sharp slabs, was an excellent building material. Where such stones were not at hand, people had to put up with inferior material which could not give the same solidity.

In the Godthaab District the stone building material was by no means as good as that found in the Julianehaab District, and consequently the houses of the western settlement were, as compared with those of the eastern, much more frequently built of earth and grass turf and, for this reason, they are now more dilapidated.

In a country like Greenland where the effects of cold and wind are so acutely perceptible, and where there is hardly any native building materials, with the exception of those mentioned above, the use of earth and grass turf in connection with stone must have had its advantages, particularly in dwelling-houses and stables etc. for cows, sheep, goats and horses, where warmth was the chief consideration. In the case of buildings meant for the keeping of stores, of provisions, and hay for the cattle, or of blubber, fish, hides, skins etc. the necessity for building materials of this kind would hardly seem to make itself so strongly felt.

So also among the ruins of each group the greater part are found to have been built in the manner mentioned above, and consequently they are very dilapidated; whereas a smaller number of outhouses either had no tightening at all between the stones, or in any case so little that at the present time it is difficult to recognize it. Houses of this latter kind are the best preserved, and are those which first strike the beholder when approaching a group of ruins. Besides houses there are a number of *enclosures*, as a rule built solely of stones, which latter long ago have been identified as cattle-folds. Finally, *round the homefields* there are some walls or fences built of earth or earth and stones.

The most solid building material, the use of timber being out of the question, was the upper crust of the turf proper, a layer of about two inches in thickness (Icelandic: *strengur*). In Iceland it is cut out in large slabs which are laid horizontally, one upon the other. However, it is not always possible to get enough of this kind of turf, and so one often has to use the upper layer of the soil up to a depth of about five inches. These sods (*hnaus*) are cut off obliquely about 20 to 23 cm in length, nearly as much in breadth and 8 cm deep. Now the so-called *klömbruhnaus* is used i. e. interchanging layers of *hnaus* and *strengur*. The construction with layers of *strengur* only is used both in dwelling-houses and in outhouses, whereas the *klömbruhnaus* construction is principally met with in outhouses and stables.

Also in Greenland this construction of the walls has been used. Thus

it was found in the dwelling house of a large farm at Tasiussaq Bay, at Sermilik Fiord in the present Julianehaab District.

Houses with walls built of earth or grass turf (possibly also with layers of stones) must frequently be repaired or rebuilt. In the course of time the turf collapses more and more, the walls slant through the action of the water and the frost, and upon the whole, the age of such a house is short—at most about twenty years. Walls of turf and stones are nearly always 1,5 to 2 m in thickness; in Iceland, on the other hand, they are low (1,25 to 1,5 m) except at the gables, where the height of course is considerably greater. In Greenland where the walls have crumbled long ago, the height has probably been about the same. Only where from the very first the object was to let the winds have free play through crannies in the walls, as for instance in sheds for drying fish (Icel: *hjallur*), and to a certain extent also in hay-barns the walls were built exclusively of stones, and the latter have, in several cases, been fairly well preserved, as far as our own times.

*House walls* principally built of stones, but with a little tightening of grass turf, clay etc. between the stones, are found in a few Greenland buildings, particularly *churches*, where warmth was not quite so essential as in the dwelling houses. Where several houses have been built together, as, for instance, in the actual dwelling, it appears that they were generally all provided with rather thick walls; probably because each separate house had its own roof, as is still found in the old-fashioned Iceland *innihús* (dwelling-houses).

As a rule the Greenland house-ruins have a square ground-plan; when the latter, as in a few cases, is not to be recognized, the reason is undoubtedly that the walls have become disarranged.

## THE VARIOUS BUILDINGS OF THE FARMS.

The groups of ruins comprise from a few to more than twenty scattered houses, as a rule all lying in a homefield, which evidently had been manured, and which in several cases was fenced in. Among the ruins a *group of closely built dwelling-houses* is discernible, situated in as dry a place as possible, and if the farm lies at a fiord, then not too far from a landing place.

Round the dwelling houses the rest of the buildings are grouped in the following manner: Nearest the dwellings there generally lies a *fjós* (cow-shed) with a *hlada* (hay-barn) or *heygardur* (rick-yard), as in the daily routine it was of importance to have the milch-cows near at hand. Furthermore there are a couple of smaller houses, frequently built without any tightening between the stones, but more often with walls of grass turf and stones. The latter must be identified as *skemman*, pl. *skemmur* (store and pack-house). An isolated small building was perhaps intended for a smithy (*smidja*).

In the *lún* or homefield at various distances from the dwelling-houses several stables are to be seen, undoubtedly for other cows as well as for horses (*hesthús*) goats and sheep (*fjárhús*) with adjoining hay-barns and hay-yards (fenced-in enclosures, where hay was kept in the open air, possibly covered with grass turfs as in Iceland). On the homefield, close to its outskirts or just beyond it, there are one or more folds and sometimes, at a greater distance, others of a similar kind, which will be mentioned below. On very remote pastures smaller groups of houses and folds are sometimes traceable; they may have been *sæters* or out-farms, or perhaps sheep folds with hay-barns and hay-yards, and as a rule they are situated in places, where the sheep were able to find nourishment during the winter season.

Sheds for boats or vessels have not been traced in Greenland; here and there at the landing places there are small houses, sometimes built of stones without any tightening, which in all probability were used as depositories for fishing implements, boat tackle etc.

Finally it should be mentioned that *churches* with *churchyards* have been found at several homesteads.

In the olden times as well as in the present day, not only the dwelling houses of the Icelandic farms but also the whole of the homefield with the buildings on it were called by the collective name of *bær*. Smaller farms and the dwellings of poor people were called *kot*, and these names were undoubtedly also used in Greenland.

This grouping of the farm buildings evidently goes back to remote antiquity; at any rate it is found everywhere in the oldest groups of ruins in Iceland, also with points of connection in Norway, and is to this very day in use in Iceland. The requirements were the same, the building material likewise, and only in the course of time changes have taken place as regards the arrangement of the dwelling-houses, their use etc.

As far as can be inferred from the sagas and the ruins found, there were in the Iceland of the saga period several houses belonging to each farm which could be divided into various classes, very nearly as in modern Iceland. In the first place the houses could be divided into *vetr-hús* (winter-houses, as distinguished from *sumar-setr*: summer-houses or out-farms). The winter-houses in their turn could be divided into men's dwellings (*mannahús*) and stables for the cattle (*fjárhús*). The *mannahús* were again divided into home houses (*heimahús*, *bæjarhús*) or the houses which formed a group, and those lying farther off. Further, the home houses could be divided into the dwelling or inhouses (*innihús*), built closely together and communicating with each other, as contrasted with the outhouses; the latter name partly applies to the buildings divided from the actual dwelling-houses, and partly to the closely built houses which did not communicate with the others by any doors.



## DWELLING-HOUSES.

According to the investigations undertaken by the present author in the Faroe Islands, the oldest type of dwelling or in-houses employed there was in all probability the oblong smoke-house with an opening in the roof, an open *gryggva* (fire-place or hearth) in the floor, as well as benches along the sides, and it is probable that the *dwelling house of Iceland and Greenland in its most primitive type was arranged in a similar manner*. From a passage in the Grágás (Stadarhólsbók pp. 260—261) the usual number of Icelandic dwelling-houses at about 1200 can be given as three, but it is very likely that this also applies to a still earlier period: "There are three houses in every man's dwelling, which must be insured against fire. One is the living room (*stofa*), another the fire house (*eldhús*), a third the shed (*búr*) where the women prepare the food. If a man has an *eldhús* as well as a *skáli* (hall, sleeping room), he must make his choice at a *hrepps-meeting* in the spring, whether he would rather insure his *eldhús* or his *skáli*."

From this it can, in all probability, be concluded, that *an ordinary smaller farm was only supposed to contain the three compartments: stofa, eldhús and búr*, to which, in the case of larger farms, might be added a *skáli*. Otherwise, according to Guðmundsson, it seems to appear from the saga literature that the Icelandic *eldhús*, until the end of the 10th century, was used as a sleeping compartment; after that time it seems that the *skáli* was used for this purpose.

The designation of *skáli* was also used for the *gildis-skáli* or a large room where festivals were held.

In all Norwegian farms there were, as a rule, besides the agricultural buildings and outhouses, at least three separate houses, each for a special purpose: the *dwelling-house*, the *fire-house* for the cooking of food, and the *bower* (*búr*) for the storing of victuals and other things, and this evidently agrees with the indications contained in the Grágás, as far as Iceland is concerned.

In Greenland one may take it for granted that the farms were arranged according to a similar plan, and this also appears from the groups of ruins found; but, on the other hand, it must not be forgotten that the greater part of the sites of dwelling-houses which are now to be found in the Greenland groups of ruins, date from the latter part of the Norse period, when things had altered in accordance with prevailing conditions in Iceland, where a more complicated manner of building had gradually come into use. In somewhat larger homesteads the dwelling-houses were still built together in a group: poorer homesteads only consisted of a couple of houses, whereas in larger ones there might be many houses (or strictly speaking compartments).

*The oldest manner of grouping the houses was by placing them in a row,*

one after the other; then, when the number of houses increased, the custom developed of placing one or more houses behind the others, and finally all the houses were placed on both sides of a middle walk, the end of which might form a sort of compartment. This principle is followed to the present day in Iceland, in such places where the old manner of building is still in use; but it disappears more and more, and the modern, Icelandic type does not differ materially from the Norwegian wooden houses with walls and roofs covered with corrugated iron.

Among the Greenland sites excavated by the present author there are no pronounced examples of the former type, but, in various groups of ruins, sites are seen which might easily have been covered with buildings of this description, though nothing can be said for certain, before they have been excavated. On the other hand, as will appear from the ground-plans of excavated house sites given below, the second as well as the third manner of grouping were exemplified in the finds made, and also a type, which may be considered a transition to the latter. This type is represented by the inhouse at Kagssiarssuk (Brattahlíð) in the Tunugdliarfik Fiord, where the grouping of the houses makes it impossible to pass directly, by a main walk, from the entrance door to the rooms farthest to the rear, as is, for instance, the case in the inhouse of the farm at Tingimiut, which in every point resembles an old-fashioned Icelandic habitation of the present day.

Before entering upon an examination of the ground-plans of the dwelling-houses excavated in Greenland, a short summary should be given of the internal arrangements of the corresponding dwellings in Iceland, with a view to obtaining a clearer idea of the Greenland houses.

The roof of the *stofa*, the timber work of which was always visible, is in larger houses supported by several rows of posts, one row along each of the side walls, which were called the *outer* posts, against which there was generally a wainscot panel, and two rows down the middle of the room, which were called the *inner* posts. By means of the inner rows of posts the room was divided lengthwise into three naves, of which the middle one was called the floor, consisting of hard beaten clay or gravel; and on which there was a row of fire-places or fires, the so-called *langeldar* (long-fires) surrounded by flat stones standing on end. From the fire-places the smoke rose under the roof, in which one or more smoke-holes were found, which originally served both to let out smoke and to admit light; but in the saga period there were according to Gudmundsson more openings to let in light, a sort of window — *gluggar* — in the sloping roof. The two outer naves were taken up by platforms, generally covered by planks, and raised nearly 30 cm above the central floor. These platforms were called *pallar* or *lang-pallar*, as distinguished from the *thverpallar* along the gable wall. On the platform there were fixed benches, *langbekkir*, in front of which tables could be placed.

Half way along the one main wall was the seat of the master of the house, and here the heavy and elaborate high-seat pillars, *öndvegís súlur* (highest pillars) were placed, while the so-called *nædri* (lower) *öndvegr*, or the second place of honour, was right opposite to it. In both seats of honour there were richly carved chairs.

The seats of the women were either on a cross bench, if such existed, or on the main benches. The room was the common living and eating room, not only for the members of the family, but also for the household and farm hands generally. Here, too, guests were received.

As long as the *eldhús* was used both for sleeping and cooking, it was fitted up with *sæti* or *flet*, raised platforms or sleeping benches; but later on, when the *skáli* came into use as a special sleeping compartment, the *eldhús* was only used for cooking, and the *skáli* became the common sleeping quarters of the members of the family as well as of servants and thralls. It had no fire-places, but was otherwise, in larger homesteads, arranged like the *stofa*, i. e. divided into three naves, a lower one down the middle (the floor) and two higher ones, one on each side of the former. Each of these side platforms or *sæti* (corresponding with the *lang-pallar* of the *stofa*) were on the front bounded by broad and heavy boards, the ends of which seem to have been fixed in such a manner that they could easily be removed. The boards, which were placed edgewise and in the day could be used as seats were called *setstokkar*, being sometimes splendidly carved and greatly treasured possessions. Consequently, several of the original settlers had brought them with them when they left their Norwegian homes for Iceland, and thrown them into the sea, as others did with their high-seat pillars, in order to take auspices as to where they were going to settle, as they wished to build their farms in the place, where these boards drifted ashore, these being to them the symbols of domestic felicity. The *sæti* were used to sleep on, but were sometimes divided into smaller compartments, a kind of fixed bedstead.

In the one end of the *skáli* were often one or more bed-chambers, and sometimes the space above the wood spars was covered with a *loft* (loft), which could also be used as a sleeping place.

Though not only the members of the family, but, as a rule also the servants, spent their days in the *stofa*, it was a general custom, particularly in smaller farms, that at night the whole household assembled in the *eldhús* and sat round the fire while the food was being prepared. In Gudmundsson's opinion there was then in all probability no fire in the *stofa*, the object being to save fuel. When the food was prepared the household went into the *stofa*, where the *náttverdr* (the principal meal of the day) was eaten, and here they spent the remainder of the evening, until at bedtime a move was made to the *skáli*, the common sleeping room.

The above arrangement of the *stofa* and *skáli* was, even in Iceland, prob-



ably only maintained in large farms. In the ruins brought to light there, it has chiefly been traced in the excavations undertaken by Professor Finnur Jónsson and the present author at Hofstadir at Mývatn, where a tripartite house with a nave and two aisles was found in a *hof* (heathen temple), and there also were found *lang-pallar*, *lang-eldar*, fire-places etc. It is possible that similar *gildisskalar* (halls) may have existed in Greenland, but hitherto none have been found, and of course conditions did not favour such elaborate buildings. As a rule the Norse settlers in Greenland had to rest content with less complicated dwellings, and, in particular, rooms with three naves were out of the question owing to the lack of timber for the roofs. Fixed benches along the sides and ends of the rooms were found in the Greenland ruins, and fire-places were, of course, a necessity.

The latter might be arranged in various ways:

1) A fire was made in a corner on the floor itself against one of the walls, or in the centre of the room, perhaps protected by stones, probably because the fire might light up the room.

2) On a stone-set platform, as a rule against a wall which was then protected by flat stones, just as stones placed edgewise are sometimes seen to have bounded the fire, perhaps making a sort of foundation for cooking vessels, as is still the custom in Iceland in the so-called fire-houses or kitchens, where they are called *klodir*. A typical example of this is to be found in the homestead at Tingimiut in the eastern settlement (fig. 4, below).

3) Cavities or holes or in rare cases square sunken boxes, the bottoms and sides of which were protected by stones. According to the most recent investigations regarding Iceland they were used for the boiling or baking of meat, on heated stones, the hole being covered during the baking<sup>1</sup>.

Among other houses mentioned in the farms is the *búr* (bower or store house), or, as it was sometimes called, *matbúr* (pantry) to distinguish it from the so-called *útibúr* (outhouse). As indicated by the name it was used as a kind of larder, in which various victuals were kept, such as bread, butter, cheese etc. but otherwise mainly liquids, such as *skyr* (curdled milk) *syra* (sour whey) etc. Vats and vessels were placed on the floor, sometimes in sunken hollows or pits, or on shelves or platforms. When the cooking was finished the vessels were carried to the *búr*, and here the food was distributed to all the members of the household. In the excavated Greenland sites there are everywhere compartments, which have evidently been used as larders.

In an ordinary Icelandic farm the group of dwelling-houses frequently only consisted of these four houses, *stofa*, *eldhús*, *búr* and *skáli*, of which, however, the *skáli* as already suggested does not occur in the older period, and this arrangement also seems to have held good in Greenland.

<sup>1</sup> Daniel Bruun and Finnur Jónsson: Om Hove etc. (Aarb. f. Oldk. o. Hist. 1909) and Bjørn M. Olsen: Om Ordet seydir (ibid.)

To these must be added, in the case of more well-to-do families, a *badstofa* (bath-house) which sometimes formed a kind of sunken cellar below one of the houses which were built together. In the bath-house tub and vapour baths were taken. There was a stone oven, which when anyone was going to take a bath, was strongly heated and then cold water was thrown on it, and so large quantities of steam were quickly produced. As to the arrangement of these ovens nothing is known for certain, and there is no proof of their having been constructed like the Norwegian smoke-ovens which are unknown from ruins both in Iceland and Greenland, as well as from old style Icelandic buildings of the present day. Flues or chimneys below the ridge or similar appliances were likewise utterly unknown in old-fashioned Icelandic buildings, and undoubtedly also in Greenland.

Fire-places, specially arranged for a forge (*smidjur*) are in themselves not easy to identify. In most cases they have probably only been what they are to this day in Iceland, a stone platform, flat on top and placed in the middle of the open floor space with a pair of bellows behind it. But in the olden times there hardly seem to have been houses specially constructed for smithies, though owing to the danger from fires the latter arrangement must have been by far the most desirable, as the forging would otherwise have to take place at the common fire-places of the house. In Greenland fire-places have now and again been found in smaller houses, which may of course have been smithies.

In every fairly well built Icelandic farm there was a *privy*, whereas it has not been proved with certainty that anything of that kind existed in Greenland. In the homestead at Tingimiut there is, however, a possibility that a small house was used for that purpose.

Besides the above houses (compartments) there was always in the Norse farms a smaller stone house, *skemma*. Here the winter stores of the farm were kept, in particular solid victuals such as meat, dried fish, cheese, butter etc. if there was no room for them in the *matbúr* (pantry). In the *skemma* were further kept chests, clothes, *vadmál* (cloth) various tools, riding-gear etc. In the oldest times the *skemma* was usually situated at some distance from the dwelling-houses; later on it might be one of the group of houses built together. When separated from the dwelling-house the *skemma* was often called *útibúr*. Such small houses are frequently found in the Greenland ruins of homesteads, and in several cases they are rather well preserved owing to their having been built solely of stone without turf-tightening. It is recognized that they were often built in places where the air had free play, so that it might penetrate through the walls.

As all roofs have disappeared, the Greenland ruins naturally do not allow the forming of any very definite idea as to the kind of roof construction used, but it is a foregone conclusion that they resembled those of Iceland buildings, where layers of beams as well as of rafters were used. That the

former, which is the simplest form of roof construction, was most widely used in Greenland is the more probable, if only considering the comparative narrowness of the houses. From gable head to gable head was laid the so-called *mænir-ass* or ridge beam, the chief support of the roof. Between the ridge beam and the upper edge of the supporting walls rafters were placed; on the latter, at right angles, other rafters, (*lang-band*) and on top of those the covering, which consisted of *tród* (turf). If the house were long or the beam less solid, one or more *stafir* (staff posts) were placed vertically in the centre of the house from floor to beam in order to support the latter.

In the *rafter roof*, which in Iceland is of more recent date than the beam roof, the ridge beam was lacking, and the roof was supported by several pairs of rafters or cross beams the lower end of which were notched, partly into stretching beams and partly into ground sills.

In the ridge there was undoubtedly a *ljóri* (window) which served both to give light and to let out smoke. In the Faroe Islands this kind of window can be seen up to our days, smoke-houses being still in use there.

#### THE CONTENTS OF THE REFUSE HEAPS.

Heaps of offal from the meals of the Norse settlers lie close outside the dwelling-house. As a rule these refuse heaps consist of several feet deep layers of ashes and bones with a sprinkling of fragments of soapstone and discarded utensils. The surface of the refuse heaps is as a rule undulating, and there is evidence pointing towards their having been formed through long periods, by a regular accumulation of kitchen refuse. They are easily traceable in the ground, owing to the rank and lush appearance of the turf, and they are the best guide in determining the situation of the buildings. In fact it was by means of these refuse heaps that the present author succeeded in 1894 in ascertaining the situation of the dwelling-houses among the ruins.

The chief contents of the kitchen middens are ashes, offal and bones of animals. Here and in the dwellings a great many remains of food vessels of various types have been dug out, which vessels were made of the soft soapstone or steatite, found for instance in the present Akia Island, in the neighbourhood of the Julianehaab settlement. As is also known from finds in Scandinavia and Iceland several of these pieces have later on been perforated, having evidently been used as weights for looms, possibly also as sinkers for fishing nets and similar purposes.

Besides these many other objects have been found in and near the kitchen middens as well as in the sites of the houses, such as iron knives, iron nails and tacks, some bone plates, spinning whirles, mill stones, bone utensils etc. all of which bear testimony that daily life has been very primitive and monotonous. Several of the soapstone fragments are inscribed with the marks of the owner and in some cases with runic characters and simple stroke and circle ornaments; only few of the fragments are more elaborately



ornamented with Roman designs, but everything testifies to the artistic standard having been very low.

From the kitchen middens and in part the dwellings at Tingimiut, Tunuarmiut, Qagssiarssuk in Tunugdliarfik Fiord—all in the Julianehaab District (the eastern settlement)—a number of bones were collected in the course of my investigations of 1894, which were later on handed in to the Zoological Museum of Copenhagen, where they were identified by Vice-inspector Herluf Winge.

Most of the contents of these refuse heaps turned out to be bones of seals, the bones of saddlebacks predominating; then came bones of oxen, goats and some sheep, in other words, the ancient Norse settlers maintained themselves just as much through the capture of seal as through the breeding of cattle. Upon the whole bones were found of:

Flounder (*Pleuronectes flesus*) one specimen,  
 Guillemot, black (*Uria alle*) several specimens,  
 Puffin (*Fratercula arctica*) one specimen,  
 Dog (*Canis familiaris*) one specimen of considerable size,  
 Polar fox (*Canis lagopus*) a few specimens,  
 Polar bear (*Ursus maritimus*) several specimens,  
 Walrus (*Trichechus rosmarius*) a few specimens,  
 Bearded seal (*Erignatus barbatus*) several specimens,  
 Ringed seal (*Phoca foetida*) a few specimens,  
 Fiord seal (*Phoca vitulina*) a few specimens,  
 Saddleback (*Phoca Grænlandica*) many specimens,  
 Bladder-nose seal (*Cystophora cristata*) several specimens,  
 Horse (*Equus caballus*) a few specimens of a small race,  
 Reindeer (*Rangifer Tarandus*) several specimens,  
 Goat (*Capra hircus*) many specimens,  
 Sheep (*Ovis aries*) several specimens,  
 Ox (*Bos taurus*) a small horned race, many specimens,  
 Whale bones (indefinable fragments).

Furthermore, while excavating the kitchen midden of the Qagssiarssuk homestead ("undir Höfda") in the eastern branch of Igaliko Fiord, Clemmensen found a number of bones, which were also specified by Winge. They comprised: remains of ringed seal and saddleback (many), bladder-nose seals, reindeer, sheep (and goats), oxen (small race)—all known from the refuse heaps mentioned above; further, a single bone of a pig (*sus scrofa*) showing marks of dogs' teeth. The latter, however, may have been imported in a ham, and pending further finds it is, consequently, not safe to conclude anything as to whether the old Norse settlers kept pigs as domestic animals. Finally, it should be noted that a fragment of a human skull, as well as the

hind part of a lower jaw, was found in the refuse heap, though it is impossible to offer any explanation of the occurrence of human bones in such a place.

In the excavation undertaken in 1903 of a kitchen midden from the Norse period at Qilaussarfik in Ameragdla Fiord, belonging to the western settlement, bones were found of a similar kind as those brought to light in the refuse heaps of the eastern settlements, such as guillemot, a single specimen, walrus (fragments of at least five skulls which have been broken in order to extract the tusks; further, part of a lower jaw, the tooth-bearing ridge of which has been cut off); bearded seal, one specimen; fiord seal, ringed seal, saddleback, reindeer (several specimens), goats and sheep (several), oxen (several), whales (a few specimens).

Bones of saddleback, reindeer and oxen were most numerous in this refuse heap.

In another refuse heap at Igdlorssuit by Pisigsarfik Fiord, a single bone of ptarmigan (*Lagopus mutus*) was found etc.

It thus appears that bones were found of the following *domestic animals*: oxen, goats, sheep, horses and dogs. Furthermore, of the common Greenlandic mammals: polar foxes, polar bears, walrus, barbed seal, fiord seal, and, more especially, a considerable number of bladder-nose seals and reindeer. Hares were only found once, and the small number of birds and fish is very striking.

Although remains have been found of several bladder-nose seals, these bones, according to Winge, strangely enough are almost exclusively parts of skulls. Though in the case of saddleback there are otherwise bones of every part of the skeleton, the penis bone is lacking which is in striking contrast to the kitchen middens of the Greenlanders, where the same bone is of common occurrence.

Marks of knives or teeth of dogs and foxes are frequently observed in the bones.

The small amount of bones of birds and fishes found in the refuse heaps should hardly be ascribed to the fact that the old Norse settlers had not practised fishing and birding; on the contrary, we know from the sagas and other historic traditions, that they engaged in these pursuits. The explanation is probably that fish and bird offal was thrown into the sea, devoured by the dogs or burned.

Thus it may be presumed that the Norsemen in Greenland used manure and offal as fuel in a similar manner as has been and is being done to this day in Iceland, where for instance the sheep-dung accumulated in the course of the winter is cut into blocks and dried in order to be used as fuel.

## STABLES FOR DOMESTIC ANIMALS.

## CATTLE BREEDING IN GREENLAND.

By means of the kitchen middens we have succeeded in ascertaining what domestic animals were kept on the Greenland farms, and they have been proved to be the same as in Iceland. Here the domestic animals were and are: *horses, cows, sheep and goats*, all of which are stabled during the winter, each group in a separate stable, principally because the various animals are supplied with different fodder, the milch-cows being given the best.

The stables for the cattle first and foremost comprise a cow-shed situated close to the dwelling-houses, a horse-stable and the sheep-folds scattered over the homefield. In larger Iceland homesteads there are, and were in the olden times, a number of stables with hay-barns or hay-yards belonging thereto. Judging by the ruins there is no doubt that this was also the case in the Norse farms on Greenland, where at a shorter or longer distance from the group of dwellings it is possible to identify sites of houses which evidently were stables of various kinds.

The cow-sheds generally consisted of rectangular buildings, the walls of which were built of turf and stone. The inside breadth was generally 4 to 4.2 m., the same proportions as were found in old-fashioned cow-sheds in Iceland, and also in the Faroe Islands and Norway. The length of the sheds, of course, depended upon the number of cows kept at the farm. In many of the cow-sheds large flat stones, placed edgewise, formed the partitions of the various stalls, which might hold one or a couple of head of cattle. These stones are either found along one or both of the main walls; in a single case I have seen the stalls arranged on each side of a cross platform, which in all probability must have been used as a sort of manger. Though the Greenland cows were of a small race, they could not, in a shed, 4 m broad, stand with their tails to each other, neither was this necessary, even though there were stalls along both main walls, as may be seen in many Icelandic sheds of the present day, where the cows frequently stand in two rows along the outer walls. The shed being so narrow they cannot stand one behind the other, but are placed in such a way that one must twist and turn in order to pass through the shed in a longitudinal direction. In these narrow stables, which in Greenland were probably also very low, the cows had to spend the whole winter, in bad years living on very short rations, even, perhaps, in an emergency, on twigs, fish etc., just as in Iceland. That the sheds used on Iceland are so narrow is explained by the fact that the smaller the space, the easier it is for the cattle to keep warm. In old-fashioned Icelandic dwelling-houses one meets with narrow, very low cow-sheds, arranged in cellar-like compartments beneath the dwelling rooms, so that



the human occupants may benefit by the animal heat; sheds of this kind, however, have not as yet been found in Greenland.

In summer the milch-cows probably grazed in the vicinity of the farms, so that they could be driven home to be milked.

The cow-sheds were mainly built of turf and stones. The hay-yards attached to them, and often situated in their immediate prolongation, were, as a rule, built of stones without any tightening, presumably that the wind might have free access through the walls.

*Open hay-yards*, where the hay was stacked, were also evidently to be found in Greenland. They were surrounded by a wall or fence and, as in Iceland, the ricks were possibly covered by earth or turf.

*Stables for the horses* were undoubtedly built on very nearly the same plan as the cow-sheds, though as a rule only with stalls along the one side. As it was of less importance to have the horses close at hand, these stables are generally not found in the immediate vicinity of the dwelling-houses, but at some distance from the latter, like the cow-sheds with hay-barns or hay-yards attached to them.

*Stables for sheep and goats* must be looked for in the groups of ruins, among the longer or shorter houses; they are often divided by partitions and, like the other stables, principally built of turf and stone. They are always narrower than the stables for cows and horses, their inside measure rarely exceeding 2, 5 to 3 m. Sheep and goats comprised rams, milch-sheep, wethers and goats all of which received separate treatment, and therefore these various groups were probably kept apart, as is the case in Iceland even at the present time. There is no doubt that these domestic animals, like the cows, were crowded into narrow and low compartments to keep warm. Water was probably often supplied to them in the shape of blocks of ice, placed in the stables so that they might lick them. In Iceland I found small niches or cavities in the walls as receptacles for such ice blocks. In one of the few Greenland ruins, the walls of which were left standing to a fair height, I noticed something very similar—as for instance in a ruin in the group of houses at Sigssardlugtoq in Igaliko Fiord.

These stables had also hay-barns or open hay-yards attached to them, sometimes built at right angles to the stables.

Here and there, at various distances from the homesteads where the grazing was good, stables were sometimes built near hay-yards for sheltering sheep and goats during the winter, and from where, weather permitting, they might be let out to find some little nourishment along the pastures. Sheep-folds of this kind (*beitar-hús*) are known everywhere in Iceland.

Finally it must be noted that many farms also comprised one or more sæter-huts (*sel*), situated at some distance.

Judging by the ruins it seems that the live stock kept on the Greenland farms was comparatively large. The stables for cows, sheep (goats) and

horses were in many places very large. At a couple of the largest farms such as Gardar (Igaliko in Igaliko Fiord) and Brattahlid (Qagssiarssuk in Tunugdliarfik Fiord) there were hundreds of cows and probably thousands of sheep and goats. It was chiefly where the shore land affords good pasture that many cows were kept, whereas in places where these conditions did not exist, sheep (and goats) were the chief domestic animals.

That not only cows but also sheep and goats were milked is proved by the small separation pens (*stekkur*), so well known from old Icelandic house-sites, and in which mother-sheep and lambs were kept separated during the night, so that the mother-sheep could be milked in the morning. Some *larger pens* were probably used as milking pens for cows, others for sheep and goats. In many places near the farms there were large and small pens on the outskirts of the homefield, or just outside it, where, in particular, sheep and goats are certain to have been driven together, or where, as in the Faroes, the flocks have been able to seek shelter in bad weather. Several of these pens were placed against the sides of rocks, and one even sees hollows in such rocks used as pens. The great number of pens testify to the fact that the live stock during the winter spent a good deal of time in the open air.

At water courses or near the sea shore traces have been found of other pens; here the washing of the wool in all probability took place, and here, perhaps, the sheep for killing were selected.

It is probable that *lambs* and *young cattle*, as in Iceland, were driven *up to the highlands* during the summer, so as to get their forage in the open air. In some places *large folds were seen with smaller compartments or sheds attached to them*, and these may have been used as *dividing pens*. Here the distribution of sheep and goats to the different farms may have taken place, the owners identifying their stock by marks on their ears. In many cases it was, perhaps, only necessary to let the sheep from comparatively few farms graze together on the highlands; in other cases, owing to the natural conditions, it has not been possible to prevent the sheep of several farms from mixing with each other.

Cattle breeding required a good deal of attention, both in summer and winter. The homefields had to be manured in the spring, so as to make the crop of grass more abundant, and during the latter part of the summer the precious and indispensable hay must be mown and gathered in for the milch-cows. Besides, a good deal of other hay for winter fodder must be gathered in from places outside the homefields, sometimes from great distances where grass grew in bays and on meadows, as well as in the highlands, on ledges and in valleys, and a great quantity of the winter fodder was evidently taken from these places. As in Iceland it was probably brought home on horseback or in boats, perhaps also in sledges across the fiords, when the ice had begun to form bridges.

There was, especially in summer, plenty of work on the Greenland farms. Besides the tending of cattle and the gathering in of hay, there was fishing in the fiords, salmon fishing in the rivers, and hunting expeditions to regions which were the resorts of reindeer, and where the huntsmen spent their nights in cottages, the remains of which are still to be traced. Also it is known that vessels were sent along the coasts on fishing and whaling expeditions to *the hunting districts of the North*.

As is recorded in the "King's Mirror" the culture of grain had been attempted, undoubtedly with little success, but in small enclosures here and there it proved possible to cultivate a few garden plants.

At the farm of Qagssiarssuk ("undir Höfda") at the eastern branch of Igaliko Fiord, this kind of enclosure is to be found, rather resembling the Icelandic kvann-gardens, but any vigorous growth of bushes and plants in these gardens was, naturally, out of the question.

The means of sustenance of the Norse settlers were thus the breeding of cattle, fishing and catching of seal and whale, and these occupations, further, supplied articles and products for export (wool, butter, cheese, walrus tusks, sealskins, ropes made of walrus hide, etc.) in exchange for which they could get various essential articles, particularly iron and grain, such as recorded in the "King's Mirror."

Meat, dried fish and milk were their principal articles of food, as is seen from an old papal brief.

### TYPES OF FARMS.

After this account of the character and use of the Norse farms and the buildings belonging to them we will, in conclusion, describe some individual types of farms, choosing such as are particularly characteristic or of historical interest, and, finally, a few whose situation is peculiar.

#### FROM THE CENTRE OF THE EASTERN SETTLEMENT.

1) Group of ruins at Tassiussaq Bay on Sermilik Fiord (Isafjördr).

The environs of Sermilik Fiord are grand and imposing, the interior part, where a couple of large glaciers debouch, having a lofty mountain-scenery with steep uninhabited coasts. When proceeding south from the head of the fiord, one meets, on the east side, three bays, *Tasiussaq* (the most northerly), *Tasiussárssuk* and *Kangerdluk*, all of which were eminently suitable for dwelling purposes, and where consequently six farms were situated, four of them at Tasiussaq.

Access to these farms from the sea was undoubtedly at times rather difficult, as for the greater part of the year the fiords are filled with calved



ice from the glaciers, but, on the other hand, there was an easy passage over land to the neighbouring fiord, Tunugdliarfik (Eiriksfiördr).

I. A medium sized farm situated at the head of Tasiussaq, near a small creek, 250 m from the shore and about 100 m above the level of the sea, on both sides of a water course. Due north of the ruins there is a steep mountain slope covered with willow shrubs, and also on mountain ledges good pastures are to be found. The soil round the ruins and between the latter and Tasiussaq is swampy and covered by thick willow shrubs, intersected by the small water courses with their tributaries. The ruins themselves, however, are situated on dry ground.



Fig. 1. Tasiussaq. Ruins of a Norse farm (D. Bruun).

In the farm there have evidently been cows (10 to 15) as well as goats or sheep, or both.

Ruin No. 1 is the collapsed site of a dwelling-house, with a kitchen midden in front of it; No. 2 is a small house, attached to the dwelling; No. 3 a stable, the stalls being marked off by flat partition stones, and a hay-yard at the other end of the house; No. 4 an outhouse; No. 5 a stable with partition stones and a hay-yard at the other end of the house; No. 6 a goat- or sheep-stable, divided into three compartments with a small en-



Fig. 2. Tingimiut. General view (D. Bruun).

closure at the end. The one compartment evidently served as a hay-barn. Nos. 7 and 9 are store-houses; No. 8 goat or sheep pens; No. 10 a hay-barn.

II. At Tingimiut in Tasiussaq lay a very large farm, not very far from the one mentioned above. It comprised a total of seventy-three houses, among which one dwelling-house, three stables with partition

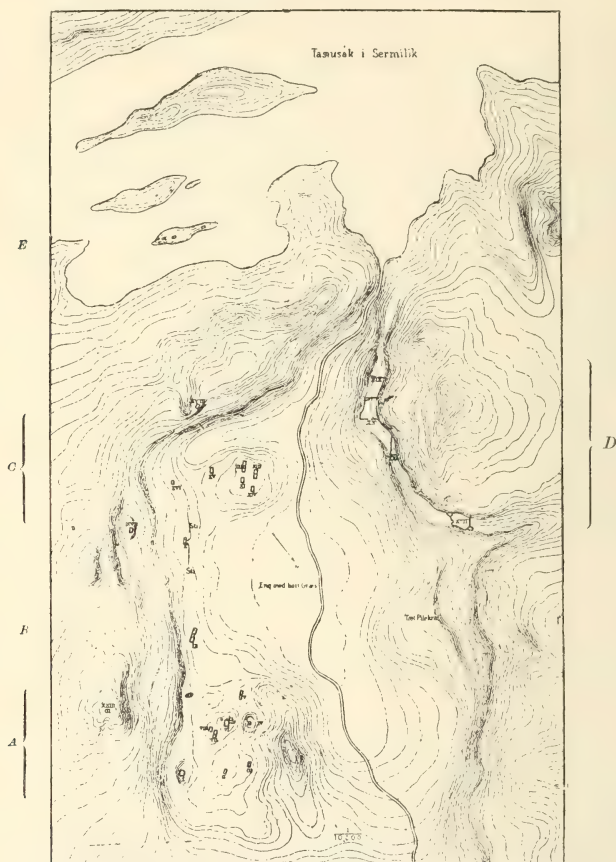


Fig. 3. Tingimiut (Eastern settlement). Ruins of a large Norse farm (G. Holm).

stones and hay-barns adjoining; six cattle-folds, four store-houses and one stable, presumably for sheep or goats, in all fifteen buildings. Further, there are ruins of eight smaller out-houses.

The ruins are situated in three groups:

A. Furthest east the *inhouse* or the closely grouped dwelling-houses, with a kitchen midden in front of it. Through excavations undertaken in 1894 by the present author, it was proved that the building represented the latest manner of grouping, in that the individual houses (or compartments) were situated on both sides of a middle passage (fig. 6, d). The greatest extent

of the building in an east-west direction is about 25 m; and in a north-south direction 19 m. The substratum is rock with a slightly uneven surface, sloping towards the west and forming the foundations of the houses. Still, it seems as if this substratum has, furthermore, been covered with gravel and clay in order to create an even flooring. The walls are, on an average, about 1 m thick and consist of stones and turf in superincumbent layers, and only in the north-westerly corner of the dwelling (the outer walls of room III) they were constructed of clayey turf with an underlayer of stone, and here there later on was found undisputable evidence of the wall having

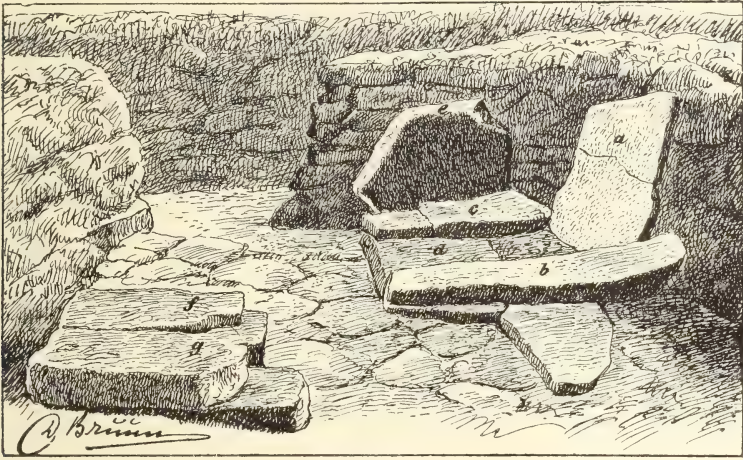


Fig. 4. Tingimiut. Fire-place in the kitchen (D. Bruun).

been constructed of *klömbruhnaus*, which was still quite traceable at a height of about 1 m, the same height as in the other houses. Within the latter, as well as outside along the walls, a lot of fallen stones were found, which suggests that the walls were of considerable greater height. The outer walls seem to have contained fewer stones and thicker layers of turf than some of the partition walls where the stones form the chief substance. The reason is in all probability that the object chiefly aimed at in the construction of the outer walls was to keep out the cold and wind, which was not quite so necessary in the case of the partition walls. The partition between the middle walk and room II was thus in part constructed of flat stones, specially selected for the purpose and resting one upon the other without any marked tightening. As a rule the walls rest on foundations of larger stones.

Right across the house there is, as mentioned above, a middle passage. To the left of the latter lie two compartments or rooms, to the right three and at the end one room. The entrance to the rooms is from the middle passage through doorways, all of which have undoubtedly been provided with large, flat top-stones. In most of the doorways, these top-stones were



found to have fallen down. The width of the door was 0,6 to 0,9 m and the breadth of the middle passage was only about 1 m, its length 14 m.

The entry through this narrow and perhaps dark passage must have been rather difficult. In it were found some soapstone fragments of vessels as well as a fragment of a spinning whirl with runic inscriptions.

Room I at the end of the passage is about 2,8 m long with a thin layer of crumbled charcoal (conifer, but not fir) and in this a single fragment of soapstone, as well as a bit of metal was found.

In room II (12,8 by 3,8 m) there was in the farthest corner nearest the passage a fire-place, at the bottom of which were a couple of flat stones (d). On this substratum were placed two oblong stones (b and c), parallel with each other and with the longitudinal direction of the passage. Their mutual distance was about 38 cm. Leaning against the northern outer wall was a large flat stone, placed edgeways (a), and against the wall towards the passage a similar one (e). These two stones were evidently placed there in order to protect the walls against the flames from the fire-place. On the latter lay a great quantity of ashes and some charcoal spreading in front of it and in the direction of the door. In the western part of the room the floor was laid with flat stones, especially in front of the fire-place. From the south wall and extending at right angles into the room lay a couple of larger stones and upon them a couple of other stones (f and g). They formed a small bench, about 0,45 m high, which may have been used by the person tending the fire, either as a seat or to put food vessels etc. on.

The flooring of the eastern part of the room was covered with a thin layer of clay and gravel, on top of and mingled with which there were a quantity of mussel shells. Scattered about in the room were some bones of animals and soapstone fragments of vessels and such like.

Room III (5,6 by 5 m). As mentioned above, the outer walls rest on a foundation (about 26 cm high) of oblong stones. Through the wall in the north-west corner there are, side by side, two stone-set drains or sewers, a few inches high and broad and divided by a stone throughout the thickness of the wall. As the underlayer inclines towards the west, these drains have certainly been a necessary measure to carry off moisture and water. The flooring consisted of a thin layer of gravel and clay. In the two corners of the western outer wall a great quantity of charcoal was found (conifer, but not fir). In the north-east corner there lay a great amount of perforated soapstone fragments, such as were in all probability used as weights for looms.

Scattered about in the room were other fragments of soapstone, principally of vessels, an iron knife, an iron nail and a bit of metal. The division between this room and room V was very dilapidated for which reason the doorway indicated on the ground-plan could not be ascertained.

In room IV (4,7 by 6 m) there is no flooring other than the very uneven

rocky surface which lies about a foot above the level of the passage. Here some fragments of soapstone were found.

In room V (5,6 by 6,3 m) a number of soapstone fragments were likewise found.

From room VI (4,7 by 6,3 m) there was possibly a communication with room IV. The east part of this room was taken up by a platform, about 2,5 m broad and 20 cm high. On the floor were found some soapstone fragments as well as a spinning whirl, a similar article being found outside the door of the passage.

From room VI there is a doorway with traces of a very large top-stone leading out to a passage, about 3,1 m long and 0,9 m broad, and terminating in a small house. In room VII (2,1 by 5 m) the outer walls are built in the same manner as those of the other rooms. The level of the flooring in the northern half of the room was about 30 cm lower than in the southern.

Finally there is, at the south-west corner of the whole group of buildings, a *small outhouse* open towards the south. It presented the appearance of a row of large stones, and whether it served as the foundation of a wall could not be ascertained.

Besides the houses mentioned above, all belonging to the closely built group, which formed the actual dwelling, there is one more building which evidently was attached to the latter:

About 6,3 m south of the entrance to the dwelling there lies a small square site, VIII, with walls entirely collapsed, built of stone and earth (2,8 by 2,8 m). On a level with the floor there was, particularly in the south-eastern half, a great quantity of charcoal (conifer, not fir).

Off the south wall of the group of dwellings—except in front of the entrance door—there was a quantity of crumbled stones which might seem to suggest that there had been gables of turf (and stone) on each side of the above-mentioned doorway. Corresponding gables would then, naturally, have to be looked for on the rear side of the group of buildings facing the north, but in this place there was not a particularly large quantity of fallen stones. However, it is possible that these hypothetical gables may, to a large extent, have fallen into the rooms where their presence cannot be proved, as these rooms turned out to be filled with great masses of earth from other sources.

The ground-plan of this group of buildings shows, as mentioned above, that the arrangement dates from a comparatively late period. Room II is undoubtedly the *eldhús*. The broad platform in room VI might perhaps indicate a sleeping place, so that the room was in reality a *skali*. The other rooms would then be: *stofa*, *búr*, *badstofa*, *salerni* (*kamarr*) *smidja*, *útibúr* (*skemma*).

Immediately south-west of the dwelling lies a large kitchen midden,

covering an area of about 150 m<sup>2</sup> and having a vertical thickness of from a few cm to about 1 m.

In the vicinity of the dwelling-house lie three store-houses, as well as a building, the western half of which is a stable, while the eastern half is a hay-barn. The stable is 4 m broad and divided by stones (stalls).

B. Somewhat farther away, between this group and C., lies a building the east end of which is a hay-barn, and the western a stable, about 3,1 m broad and 9,4 m long, with stalls along the one outer wall, presumably a horse-stable.

C. The most westerly group, about 550 m from A, comprises nine ruins *viz.* one stable (4 m broad inside on both sides), presumably a cow-shed with a hay-barn at the east end; one tripartite, oblong building (sheep- or goat-house); close to the latter three small houses (stables or enclosures for hay); a little farther towards the east there are three other similar little buildings; finally, on a rock above this group and facing south, a smaller, well-preserved store-house (*útibúr*).

D. North of the river: four enclosures on a narrow ledge, against the side of a rock, of which three are pens for larger cattle and one for sheep and goats.

E. On a small island at Tasiussaq the ruins of a couple of smaller houses have been found.

III. On Tunugdliarfik Fiord lies the group of ruins *Tunuarmiut* (i. e. those who live to the rear) on a small cape, projecting from the Ilímaussaq Peninsula towards the south-east, at the entrance to the large bay behind Nunasarneq Peak. Steep mountains, several thousand feet in height, rise behind the cape towards the west, Nunasarneq Peak towering towards the east on the other side of the inlet. On the cape itself, which is practically only an old alluvial beach consisting of pebbles, the growth of grass is sparse, whereas against the side of the mountain there is a good deal of food for cattle, as well as some willow shrubs.

At the extreme narrow point of the headland there is deep water, so that even vessels of some size could put in. In the interior of the bay towards the north-west, where a small water course finds its outlet, there is, on the other hand, shallow water and difficult landing, even for boats. Here, however, the most important of the ruins are situated, in the vicinity of the fresh water.

This group (fig. 5) comprises eleven ruins, which together form a small farm, consisting of:

A *dwelling* with a kitchen midden in front of it (No. 1), in the neighbourhood of which there are some stables and hay-barns, perhaps hay-yards (Nos. 2 and 3) as well as a couple of pens, one roundish (No. 4) and one square (No. 5), the latter evidently for goats or sheep. A little farther off lies a sheep or goat-house (No. 6) with a couple of pens, probably also for



sheep and goats (Nos. 7 and 8) as well as two store-houses (Nos. 9 and 10), built of stones only.

At the extreme point of the headland where, as suggested above, there was good landing place for vessels, lies a third store-house (No. 11); finally, there is, farthest off from the dwelling houses on a mountain slope facing north, a small sheep or goat pen.

From the headland to ruin No. 7 the ground rises gradually to about 30 m above the level of the sea along the ridge on which ruins Nos. 8, 9 and 10 are situated. On both sides the ground slopes from the ridge down towards the beach. The dwelling (No. 1) and the stables etc. (Nos. 2 and 3) are thus situated at a somewhat lower level than the store-houses (Nos. 9 and 10); at the lowest level are the pens (Nos. 4 and 5).

The *dwelling-house* (fig. 6 e) was excavated by the present writer in 1894. It presents a rectangular ground-plan (about 23,5 m long and about 7,5 m in breadth) divided into three compartments with an additional building in the rear, facing north (about 4 m long and fully half as broad). The outer walls were built of undressed stones, tightened with turf, and are still

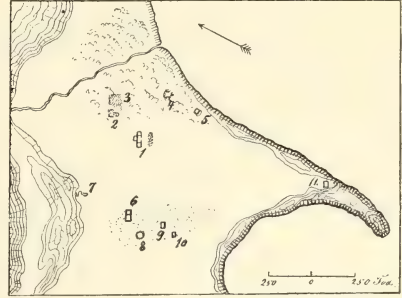


Fig. 5. Tunuarmiut, Tunugliarfik Fiord. Eastern settlement. Norse farm (D. Bruun).

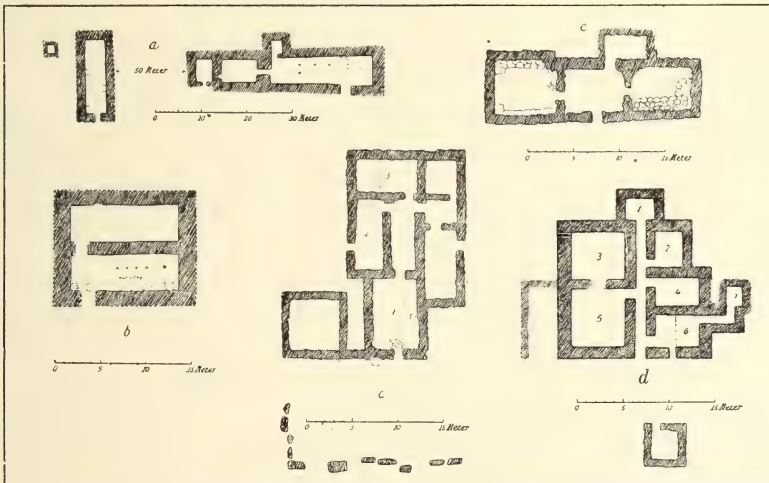


Fig. 6. Ground-plans of ancient dwelling-houses in Iceland and Greenland (D. Bruun).

*a* The dwelling house and stable of the farm Aslákstunga hin innri, Iceland. *b* Ruin from Erikstad, the farm of Erik the Red, Haukadal, Iceland. *c* The farm of Brattahlid, Greenland. *d* The farm near Tingimiut, Tassiussak by Greenland. *e* (right hand upper corner) The farm at Tunuarmiut, Tunugliarfik Fiord, Greenland.

left standing at a height of about 0,5 m. The thickness varies from 0,9 m to slightly over 1,5 m. Particularly at the east end of the building large quantities of tightening had been used in the walls. The only entrance traceable was found nearly midway on the south side of the building, leading to the middle compartment (II), from which there seems to have been doors to the other rooms, but in this place the walls were much crumbled and, consequently, not very distinct.

In room No. I (farthest west) there were easily traceable stone projections, possibly benches along the two outer walls and a sunken fire-place in the north-east corner of the house. It was built of a number of pretty large stones, placed in a circle round the edge of a hole at the bottom of which was a large, flat and thin stone. The hole was filled with ashes and charred remains. As in the other rooms the flooring consisted of a thin layer of clay on top of the subsoil of pebbles, sand and gravel.

In rooms II, III and IV there was a thin layer of charcoal and ashes in the places indicated (cf. ground-plan). In room III there was a platform about 1,9 m broad along the south wall and part of the gable wall. It was 0,3 to 0,5 m high; its front part consisted of larger stones, and its surface was partly paved with flat and thin stones, rather resembling plank beds.

As it will appear, this dwelling, as contrasted with No. 2 at Tingimiut, represents an older manner of grouping. It comprises four compartments, these probably being *stofa*, *eldhús*, *búr* and *skáli*.

IV. At Qagssiarssuk in Tunugdliarfik Fiord (Eiríksfjördr) there were excellent conditions for building a large farm, and so it also appears from the ruins that one of the largest farms from the old Norse period was situated in this place. This farm from all appearances must have been *Brattahlíð*, the famous home of Erik the Red.

The scenery surrounding the ruins is extremely beautiful. They are situated on both sides of the mouth of a small river, and behind it, to the west, the ground rises towards the undulating land between Tunugdliarfik and Tasiussaq in Sermilik, while the whole of the tract affords particularly favourable opportunities for cattle breeding.

The ruins at Qagssiarssuk (fig. 7) consist of three groups:

a) Farthest south at Igdlorujuk about 1 km from the mouth of the river, a small out-farm (No. 1) immediately south of the homefield of the principal farm. These remains comprise *inter alia* one dwelling-house (No. 5), four stables (Nos. 1—4) one pen (No. 7) as well as a stone house (No. 6).

The ground from here along the shore as far as the mouth of the river is a comparatively flat shoreland, only broken by some ridges of red sandstone, extending at right angles from the shore. Towards the north the out-farm is bounded by a sandstone ridge of this kind.

b) At Qagssiarssuk proper the following ruins are to be found: 1) south of the mouth of the river thirteen ruins, which may very well have formed

a separate farm. Here there is a dwelling-house, two or three stables, some store-houses, pens etc. 2) North of the mouth of the river: fourteen ruins, of which five (Nos. 10, 11, 12, 16 and 20) are in a rather elevated situation and far from the sea shore. They are all very decayed and covered with vegetation.

Here there is a *church with a churchyard*, in the vicinity of which there is presumably another dwelling-house, now crumbled and covered with vegetation, a couple of stables with partition stones and hay-barns, and, furthermore, at various distances, a number of smaller buildings which must perhaps rather be looked upon as goat and sheep-stables. The part of the field on which these ruins are situated, is bounded on the north partly by the hills, partly by an earth wall which continues some distance below the hills in the direction of the shore. The ruins north of the river in all probability form a separate farm.

c) A walk of about ten minutes *up the mountain towards the west* takes one to a group of ruins comprising seven houses. None of these are dwelling-houses, but presumably stables or pens, belonging to one of the farms at Qagssiarssuk.

Some of the ruins may be described in greater detail. The dwelling-house (fig. 6 c), situated south of the river, is 23 m long, 6,6 m by 13,2 m broad and consists of seven rooms. The most easterly is the *stofa*, from where a broad passage leads towards the west. To the left of it lies the *eldhús*, or kitchen, recognizable by a great quantity of charcoal, animal bones etc. and by an exit to the kitchen midden, south of the house. At the end of the passage is a room with a raised platform, in all probability the *skáli*. Facing north there are three other rooms, one (farthest west) in which soapstone fragments were found, one (in the middle), perhaps a *matbúr*, or larder and a larger room with a special exit (towards the north). In the immediate vicinity of the house lies the *skemma* or pack-house.

The manner in which the various compartments of this dwelling are grouped resembles, as it will appear, the one adapted at Tingimiut, though dating from a somewhat later period.

Among the ruins right north of the river there is a small church built of stones and surrounded by a churchyard. This church is probably the oldest in Greenland, having as appears from the sagas, been built by Thjodhild, the wife of Erik the Red, at some distance from the dwelling-house. The

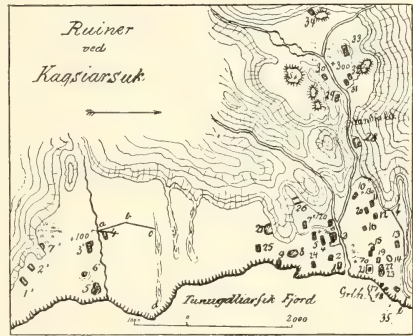


Fig. 7. Brattahlíð, where Erik the Red lived.

Ruins of three farms (D. Bruun).



church and churchyard are much overgrown and should be more closely investigated than has hitherto been the case.

In all probability the whole of this area formed one large farm, which was subsequently divided.

At some distance from the farm, in a northern direction, lie a couple of sheep-pens.

V. Ruins of the Bishop's See Gardar (now Igaliko) in Einars-fjörðr (Igaliko Fiord).

The farm was situated on a level plain along the shore; towards the west the mountains rise right above the homefield, towards the north it is protected by an earthen wall and on the south bounded by a small water course. In the centre of the homefield lies the cruciform church with the churchyard (No. 1), close to the group of dwellings. It is surrounded by inhouses of various sizes (Nos. 2, 3, 8 and 24), also by large stables for cows, horses and sheep (goats) with hay-barns (Nos. 5, 6 and 7 showing that the number of cows kept must have exceeded a hundred). They are

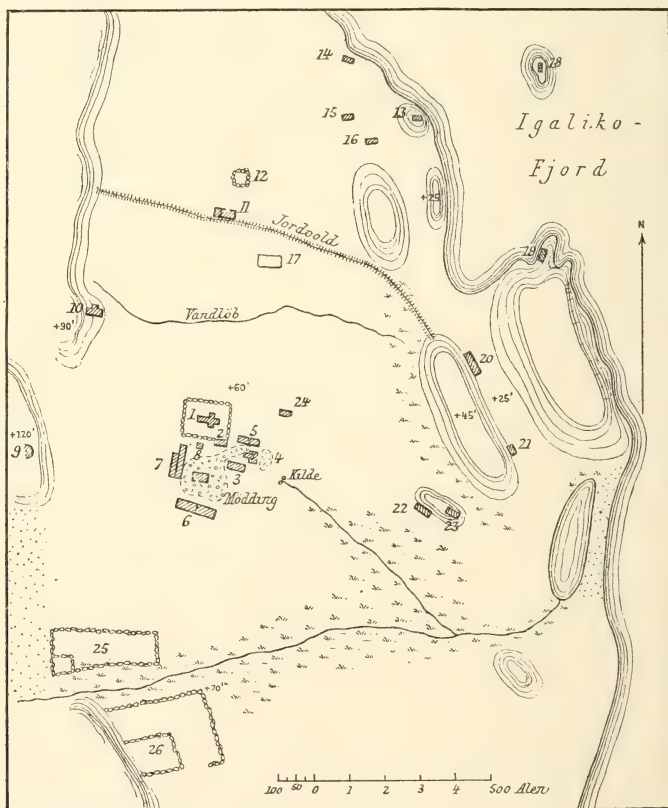


Fig. 8. Map of the plains at Igaliko with ruins of Gardar, the old Bishop's See (G. Holm and D. Bruun).

1 The church. 5—6 Large stables for cows. 7 The dwelling-house.

surrounded by kitchen and stable middens, while a spring well is found in the vicinity of the building. Other outhouses are to be found farther off, chiefly stables for goats and sheep and (Nos. 9, 10, 11, 12 and 17) near the homefield. Some extensive enclosures (Nos. 25 and 26) built of stones are large enough to accommodate thousands of sheep and goats. At the landing place there are remains of a store-house (No. 19); a similar house, built of huge blocks against a natural rock (No. 20) was presumably intended for the same use. Outside the homefield some smaller houses (Nos. 13 to 16) are traceable, with several other very indistinct sites, within the same area probably the *thingibúdir* (thing-booths), the whole ground being the place in which the Gardar Thing was held. On an island off the coast (No. 18) lies a ruin, and a similar one on a skerry farther out in the bay. Mogens Clemmensen is of the opinion that there are remains of at least thirteen booths. A larger fold in the vicinity perhaps served as a stable for the horses as well as Nos. 21, 22, 23 with the characteristic smaller open sheep-pen.

The outside length of the church was 26.40 m, the outside breadth of the nave 11.30 m, the breadth of the original chancel 7.50 m.

The Gardar Cathedral was, as has been pointed out by the Norwegian H. Schirmer, only about 2 m shorter than the oldest Olav Church at Nidaros. It seems as if the transepts here have been added at a later period, presumably at the time when the Bishop's See was founded (1132). According to Clemmensen it resembled in design the first stone churches, built from the Irish-Anglo Saxon models immediately after the introduction of Christianity by King Olav Tryggvason of Norway. Several blocks of red sandstone, the "marble" of the old Norsemen, were used in the church as well as in other houses belonging to the Bishop's homestead, as for instance a large building with two entrances, probably a depository for the tithes (No. 2).

The church of course had bells, and the ringing of bells occurs in the sagas, while the Greenlanders (the Eskimos of our days) have a tradition relating to a large bell, which could be heard far and wide. A fragment of bell metal has also previously been found here, the bell apparently having weighed 500 kg. A metal ring belonging to a bell was brought home in 1894 by the author.

## FROM THE NORTHERNMOST PART OF THE EASTERN SETTLEMENT.

VI. South of Arsuk Fiord in the most northerly part of the eastern settlement, lies Qôrnoq Fiord. It is very narrow, about 38 km in length and surrounded by mountains. In the interior of the fiord two glaciers debouch from the south, and a little farther in, right at the head of the

fiord, a third glacier comes down, very near to the water's edge. Following the 125 m broad course one passes the moraine formations of gravel and clay of the other glaciers. This course is very shallow and is only navigable at high water. Having passed it, one gets on a flat at the head of the fiord, and here, close to the third glacier mentioned above, lie the ruins of a large farm.

The ruins are situated on a plain, facing the fiord with rather steep walls. In this place the plain lies some 30 feet above the bed of the river,



Fig. 9. The head of Qornoq Fiord (the northern part of the eastern settlement, near Ivigtut). The homefield of a Norse farm (D. Bruun).

and then it rises regularly towards the interior, until stopped by a moraine about 400 m from the shore. West of the plain on which a large Norse farm was situated, runs the river, and east of the latter a brook. It seems as if the plain on which the ruins are situated has been inundated by a branch of the river, which evidently has made its way through the moraine where a depression is visible. This inundation seems to have caused these ruins to stand out very distinctly as the earth has been washed away, while the stones of the walls remain or, at most, have only been slightly dislocated.

The farm comprised: nearest the shore closely built dwelling-houses, which are now very much collapsed; further, cow-sheds of the usual type with an inside breadth of 4 to 4,4 m with partition stones marking the stalls, also hay-barns or hay-yards; larger pens of various sizes and a number of smaller outhouses.



## FROM THE WESTERN SETTLEMENT.

The most southerly fiord of the Godthaab District, the old Vestribygd, in which Norse ruins are met with, is the deep Ameralik Fiord with its continuation, Ameragdla towards the east and Itivdleg towards the north-east. In both of these there are Norse homesteads. .

VII. At the head of Ameragdla, on the north side near a cape—the place is called Qilaussarfik—lie the ruins of a large farm with remains, as it seems, of a church and churchyard, stables etc. This place is the centre of certain local traditions, dealing with the destruction of the last *qavdlunáqs* (Norsemen) of the western settlement.

In 1903 the ruins at Qilaussarfik were investigated by the present writer, accompanied by Inspector O. Bendixen and the young Greenlander John Möller.

At high water and with a fair breeze our umiaq approached the head of the fiord, where a long and broad headland with the yellowish vegetation, so characteristic of the homefields of the Norse farms, extended below the heights. This headland formed a fairly large bay at the head of the fiord, and in its interior a river debouched, at the mouth of which we pitched our tent near some shrubs. It soon turned out that, as already suggested, a large farm had been situated on the headland, with an enormous homefield, on which were several partially overgrown ruins of houses, while others on the east side of the headland near the seashore were evidently covered with furtle and grass. Here a few animal bones were sticking out of the slope, and as we commenced to dig, we also found five human skulls. At first we did not quite know how to explain this apparent mixture of animal and human bones, but presently the problem was solved. At low water part of the inner bay turned out to be dry, and when I asked the Greenlanders who accompanied us and were acquainted with the locality, how it was at lowest ebb, they answered that the bay then formed a kind of lake. At the same time we found the remains of a small house, facing east and west, and also two rows of stones placed north and south of the latter and between which the human bones were found, whereas the animal bones were nearly exclusively found outside it, and the thought immediately presented itself that we had here the remains of a *church and churchyard*.

The dwelling-houses of the farm evidently lay beneath the mounds close to the west of the church; somewhat farther away, above the kitchen midden, other groups of ruins were found scattered about the homefield.

The following is a summary of the various parts of the group of ruins, but, in addition, the reader is referred to the accompanying map sketch (fig. 10).

A. Nearly midway of the plain and on its highest point lies a group of ruins comprising four houses, probably stables with hay-barns.

B. Some 90 strides northeast of "A" lies *another group of buildings*

which like the former must be considered a stable with a hay-barn and enclosures.

Smaller enclosures (pens with milking accommodation) or small houses adjoining the stables.

C. A large piece of ground with luxuriant vegetation, near the shore and facing the bay, evidently covers the original dwelling-houses, with a

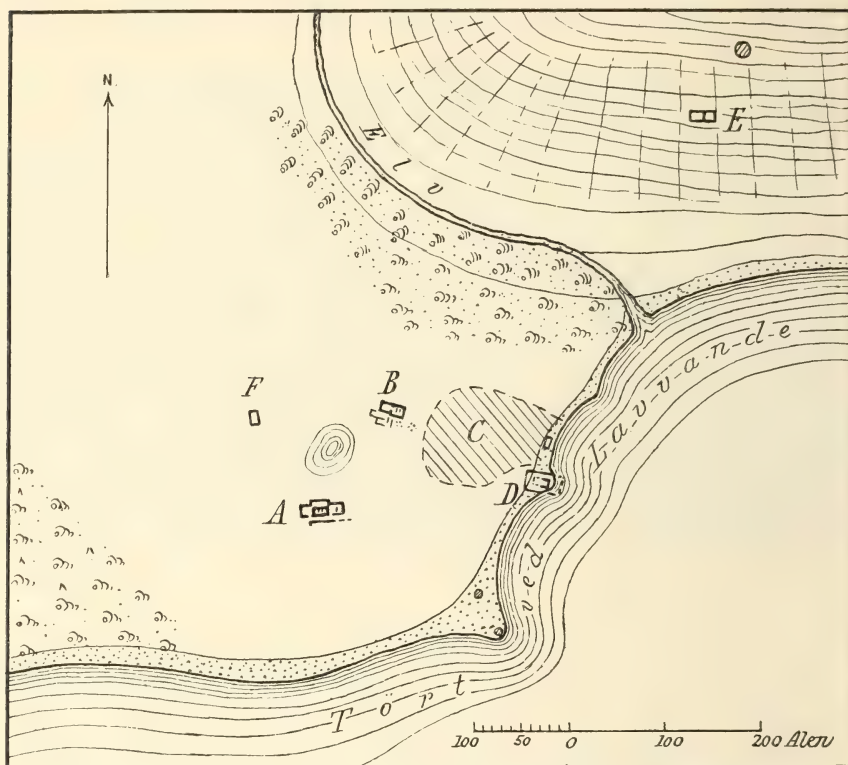


Fig. 10. Qilaussarfik at the head of Ameragdla Fiord (Western settlement, Lysufjördr). Norse Farm and Church (D. Bruun).

large kitchen midden, or heap of ashes and refuse. This is most distinctly recognized at the shore line, where the water has caused the earth to collapse. By digging here and there it was proved that the refuse heap extended further in the direction of the interior. It is beyond a doubt that the dwelling-houses must have been situated in the vicinity of the kitchen midden, but the excavation of the greatly overgrown ground will require much time and considerable outlay.

D. The ruin, which is the first to strike the visitor in these parts lies, as already suggested, on the beach close to the east of the refuse heap and the group of buildings. At high water it is almost entirely submerged, but when the water recedes, a heap of large, flat stones become visible, which

stones must originally have formed an oblong square in an east-west direction. However, only on the one side—towards the north—is there clear evidence of the heaped-up stones having formed a wall. The west end probably lies beneath the sod of the headland, the surface of which only rises some two feet above the beach and is submerged at high water.

When the neighbouring soil is washed away, it now and again happens that parts of human skeletons, especially skulls, are exposed and subsequently spread along the beach. It must be supposed that we are here dealing with a *church*, surrounded by a *churchyard*.

On the shore, just outside the northerly churchyard wall, there is a heap of tumble-down stones, probably the remains of a small house.

E. On the slopes north of the river lies a large, round enclosure (pen) as well as another small square pen, divided into two parts.



Fig. 11. Ameragdla Fiord, Quilaussarfik. The site of a Norse farm and church (D. Bruun).

F. On the homefield there is a small site (*búr?*).

Farther off from the homefield (outside the sketch) there are in a couple of places, light coloured patches with traces of small sites of houses (perhaps outlying sheep stables).

The situation of the Qilaussarfik farm must have been an excellent one. The homefield was large and fine, and in the mountains there was good pasture land. Across these mountains, which were not particularly high, there was an easy communication with other farms in the land south of Pisigsarfik (the Kapisilik valley), a branch of Godthaab Fiord. Already Thorhallesen had drawn attention to the excellent conditions in this place. He says: "Here is the best opportunity for putting out seal nets, as seal also come there at highwater. Where the field was formerly cleared, there is still grass in large quantities; thickets new and old everywhere."

In conclusion mention is to made of a few other sites in these regions:

VIII. At Eqaunit, a bay on the south side of Ameragdla (the continuation of Ameralik Fiord) there are ruins of what seems to be two farms.

The place is one of the most beautiful in this part of Greenland. The bay is surrounded by mountains, and from its head a valley spreads in the



direction of the mountain plateau. Across the mouth of the valley there is a moraine about 50 m in height, which resembles part of a fortification and was compared by Thorhallesen with the Copenhagen ramparts. The moraine is broken up nearly midway by a large river, and another river comes down to the water's edge, round its western extremity.

This locality is praised by all visitors for its beauty and luxuriant vegetation, and there is also an abundance of fish in the river. Thorhallesen mentions Eqaluit as the place for the best herring (*angmagssal*) fishery in Ameralik, and he further states that in most years there are a number of seals in this place, "for which reason the Greenlanders like to take up their abode there at that time (i. e. when the *angmagssal* are there); but they have not spent the winter there, because the bay freezes over; their houses are to be found here and there on the headlands close to the shore."

The ruins from the Norse period consist of three groups:

A. At the head of the bay on the foreshore, some 125 m broad, below the eastern extremity of the above-mentioned moraine, where a brook is purling down, there is a large, overgrown patch (30 by 50 m); here a group of dwelling-houses and outhouses seem to have been situated, and a little to the west of the latter a round fold.

B. At the western extremity of the moraine a large river, as already mentioned, comes down to the water's edge. In this place the ground is covered with shrubs, but in among the latter there are indistinct traces of various houses. This, as well as the vegetation, bears evidence that a Norse farm has been situated here.

C. On the level foreshore, below the western extremity of the moraine and above the slope facing the bay, there are four or five small ruins, of which at least the two are pens. They probably belonged to the farms at B.

The landing place for boats is recognizable by a good camping place on the west side of the bay, not far from ruins B.

It is of course not entirely impossible that all of the ruins may have belonged to one large farm.

IX. Eqalugialik. Large Norse farm in the interior of Itivdleq Fiord (the continuation of Ameralik Fiord). At the head of the fiord a small peninsula projects, parallel with the longitudinal direction, but in such a manner, that the extreme, southermost headland almost reaches the east side of the fiord, and thus the greater part of the fiord is locked by a very narrow inlet. Here at ebb-tide there is a low cataract, as the water of the bay can only gradually make its way through the narrow outlet. On the peninsula, the southermost extremity of which rises somewhat above the middle part, a large farm was situated, the homefield of which extended from the bay right across the interior part of the peninsula and as far as the fiord. Here some dilapidated and overgrown sites of houses are visible, comprising evidently dwelling-houses, stables etc.

On the north side of the bay rises a mountain mass ending in a peak, on which there is an old Norse cairn. Nearly 30 to 40 m above the bay, on the steep mountain side, there lies an oval *enclosure* (pen) the ground-plan of which consists of large stones (10 by 11 strides) with a smaller square projection (dividing pen) towards the west.

From this pen there is, in a straight line towards the bay, a row of larger stones, terminating in a very large boulder, about 40 strides from the water's edge. It forms the northern boundary of another large enclosure (pen) with a fairly oval ground-plan, the most southerly point of which is under water. At springtide the level of the water is 1 to 2 m above the lower part of the pen, and at high water the stones of the lower half of the pen are submerged. The two pens with the row of stones between them formed, as it appears, the eastern boundary of the Norse farm, outside which the cattle grazed in summer on the mountain sides and in mountain wilds, where there was sure to be good pasture-land.

Across the mountains there is a convenient passage to Pisigsarfik Fiord—so convenient in fact that the present author in 1903 together with Inspector O. Bendixen had an umiaq carried across. This is also sometimes done by the Greenlanders, and only at high water is it possible to float a vessel of this type from Itivdlek into the bay. This bay has a landing-place on its north-easterly bank, from which the umiaq can be carried across the mountain ridge in a northerly direction to Pisigsarfik, a distance of nearly one mile.

In the interior of Itivdlek Fiord, near Eqalugialik, fairly large quantities of driftwood are to be found, and in spring many seals are captured in these parts, which are also visited by reindeer. The Greenlanders from the dwelling-places in the northern fiords quite frequently walk across the isthmus, carrying their kayaks on their heads, in order to go hunting and fishing at Itivdlek, and then they usually camp for the night near the large boulder of the Norse pen.





# THE FINDS FROM HERJOLFSNES

BY

POUL NÖRLUND, Ph. D.

**I**n the summer of 1921 the Commission for the Direction of Geological and Geographical Investigations in Greenland sent out an archæological expedition with the object of carrying on researches of the old Norse church and churchyard at Herjólfssnes, the present Ikigait. The expedition, the Danish members of which were Mr. Johan Petersen, the former "Kolonibestyrrer," and the present author, on behalf of the National Museum, brought home results, which in various respects threw new light on the old Norse culture of Greenland, and in the following a summary will be given of what was attained from a scientific point of view, a detailed account having already been published in vol. LXVII of "Meddelelser om Grønland." Besides a general statement of the course of the expedition and its archæological results this volume contains a treatise on the runic inscriptions found, by Professor Finnur Jónsson, and another on the anthropological material, by Professor Fr. C. C. Hansen.

The situation of Herjólfssnes which is mentioned on several occasions in medieval sources, has been known since 1830, when one of the missionaries from the Moravian settlement at Frederiksdal, during a visit to Ikigait, found a tombstone, inscribed with medieval majuscules in the Icelandic language, used as a capstone over a door in an Eskimo hut. From this it was concluded that there had been an old Norse churchyard on that site, which supposition was confirmed when, in the following years, burial places of undoubted Norse origin were exposed in consequence of the ravages of the sea along the shore cliff. On the initiative of the Royal Society of Antiquarians at Copenhagen trial diggings were already undertaken there in 1840. In subsequent years further attempts at excavation were made at Ikigait by occasional Danish visitors, but the greater the ravages of the sea, the more evident became the necessity for a systematic, archæological investigation of this peculiar burial place.

Herjólfssnes was already inhabited during the early period of the Icelandic settlement. The man who took land here was called Herjólf Baardson and

came from the region between Vaag and Reykjanes. He seems to have been one of the most distinguished of the settlers, who in 985 went with Erik the Red from Iceland to the newly discovered country. While Erik himself and all the other Norsemen who came to settle there went into the deep fiords, where they were sheltered from the rough sea wind, Herjólf Baardson alone settled far out at the open sea, where gales roared across the low headland, and the waves dashed against its shores. In spite of the rough climate he found in this place excellent pasture land for his cattle and sheep, but the chief advantage of the place was that there was a good harbour, Sandhöfn, on the other side of the fiord, and which, in later years, became the most frequented port of call for the Norwegian trading vessels visiting the country. When after his dangerous passage across the open sea, the skipper had safely rounded Cape Farewell, the high mountains behind Herjólfnes were consequently the point towards which his longing looks were directed.

Herjólfnes now lies waste and deserted by human beings. Even the Eskimos have left it, though in the 18th and 19th centuries they settled there for a considerable period, and during the years from 1834 to 1877 even one of the outposts of the Royal Greenland Trading Company was situated there. Therefore the old Norse ruins are not so undisturbed here as in many other places. Several of the outhouses have been destroyed to provide stones for the huts of the Eskimos, but ruins are still extant of a medieval block of dwelling-houses and of a cow-shed, besides a couple of less important small outhouses. It is evident that there has been a fairly large farm at Herjólfnes, although it is surpassed by the very largest within the Norse settlements in Greenland, *viz.* the Bishop's See at Gardar, and the Lawspeaker's farm at Brattahlíð. This impression is strengthened by the fact that a church belonged to the farm; as is generally the case in Iceland, the church was built for the farm itself and not as a parish church, and it is naturally only the larger farms which have been able to indulge in the luxury of a church and a priest. The church consisted of a nave and, at the east end of the latter, a somewhat narrower chancel. The total inside length must have been about 14.5 m, the chancel taking up 4.3 m; the breadth of the chancel is 4.3 m, that of the nave 6.5 m. As compared with the dimensions of the other known church ruins in Greenland, Herjólfnes is again smaller than Gardar and Brattahlíð. It is, however, larger than all others, being also essentially larger than the medieval churches which we know from Iceland, and even compared with contemporaneous Scandinavian village churches its size must be termed considerable. It is constructed of large undressed but carefully selected granite stones laid in earth (turf) and with uncommonly heavy and broad foundations; the walls are carefully built, but their greatly varying thickness shows a striking lack of technical skill.

Under the walls of the church traces of interments have been found,

and from this it appears that there must have been an older Christian burial place and so also another church of somewhat different dimensions in the same place. From these interments dates a well preserved coffin: on the end board ornaments have been carved which must belong to the end of the 12th century, and so the excavated church ruin cannot have been constructed until after this period. On the other hand, it is, on common historical grounds, likely to suppose that it has been built at a period not much later, and so the building should be dated about 1200. Its western part,



Fig. 1. Herjólfsnes (P. Nörlund).

the foundations of which, in contradistinction to the other parts, are quite superficial, suggests a later addition.

One of the characteristic features of the church is that, like the cathedral at Gardar and the church at "undir Höfda," its western gable was not stone-set. It must be supposed that the gable was made of timber, as is to be found in Icelandic dwelling-houses. Here in the western gable was probably the main entrance to the church. In the northern side of the nave there was a very small doorway which had been closed up at a later period, but apart from that there was no trace of any entrance in the walls preserved.

The most interesting part of the excavations is, however, connected with the burials. It appeared, which in itself is rather surprising, although it agrees with the strict church rules, that the church itself was only in exceptional cases used as a burial place. There were in all only traces of two graves within the walls of the church. In one there was found, among other things, a bear's tooth, probably an amulet; in the other an oval box formed of whale bone, while the bottom was made of wood, the box being of exactly the same kind as those used by the Eskimos of the present



day. This is the only evidence found at Herjólfsnes of any connection between Norsemen and Eskimos. That it is not an Eskimo burial appears among other things from the fact that the same grave contained a small wooden nob of undoubted Norse origin and inscribed with the mark of the owner.

As to the churchyard lying round the church, nearly the whole of the southern part had, in the course of centuries, been swallowed up by the sea. The edge of the latter was then right under the southern wall of the



Fig. 2. Herjólfsnes. The church ruin. In the foreground a wooden coffin (P. Nörlund).

church, the western part of which had already begun to crumble. Thus the most valuable part of the burial ground was destroyed, the well-to-do, in Greenland as elsewhere, undoubtedly preferring to be buried south of the church.

Curiously enough there was no evidence of the use of stone-set tombs, such as were so common in Europe during the Middle Ages, and this in spite of the fact that there was abundance of such material at Herjólfsnes. In this country, so poor in wood and restricted to drift-wood and imported timber, those who were at all able to do so buried their dead in wooden coffins, fastened with wooden nails or tied together with whalebone fibres. They are generally trapeze-shaped, broadest at the top end and tapering towards the bottom end. That only the more wealthy were buried in this

manner appears from the fact that the coffins found (29 in all) are for the greater part closely packed near the walls of the church, a more coveted burial place than farther out in the churchyard.

Those who could not get a coffin were, as was done in Europe with poor people, wrapped in their old clothes and laid directly into the ground. To this latter habit we are indebted for the preservation in the earth of

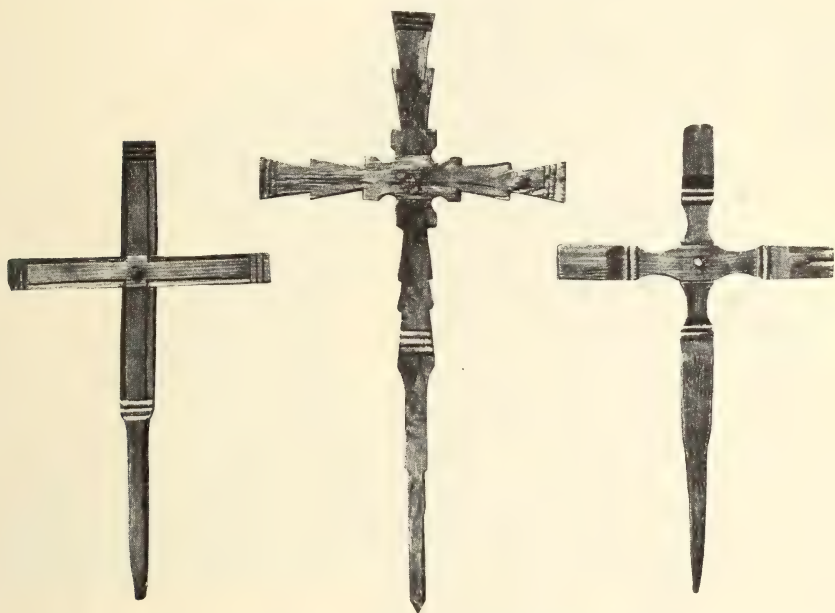


Fig. 3 Wooden crosses which were laid between the hands of the dead.  
Found at Herjólfunes. (P. Nörlund).

Greenland of a number of medieval daily costumes, a find quite unparalleled elsewhere in Europe.

In the coffins, on the other hand, no shrouds have been preserved. Only in a single one a little child's frock was found, but apart from that, most of the coffins were comparatively uninteresting from an archæological point of view. Not even skeletal parts were preserved.

A peculiar position, however, is occupied by a coffin which was found north of the chancel, right against the foundations of the latter and hidden by a huge block of granite which nearly covered its entire length. The deal boards were as fresh and well preserved, as if the coffin had stood only a winter and not 500 to 600 years in the soil. Like all the other coffins it was filled with earth, the remains of the bones only being distinguishable as a clayey mass. The most remarkable feature about this find was that in one corner, near the top end, there was a small square stick of deal wood and inscribed with very distinct, almost inconceivably well preserved runes. The inscription is in the Icelandic tongue and reads as follows: "This woman



Fig. 4. Female dress, found at Herjólfssnes.  
14th century. (P. Nörlund).

was laid overboard in the Greenland sea, who was named Gudveíg." It appears that a woman had died on the way to Greenland, and, as was and is the custom, she had been buried at sea. After the vessel's arrival at Herjólfssnes the small stick was carved and buried in the coffin as a kind of representative of her. This was undoubtedly done in order to bind her to a grave and to prevent her from walking after death, and it is interesting to trace a connection between this and the huge granite block. The coffin might be called a cenotaph, even though this should hardly be taken quite literally, and the stick was presumably laid in a coffin containing a body which was to be buried at the same time. In the coffin were found almost undoubted traces of two bodies, but the latter of these was only laid in it at a later time, when the original lid, which had been fastened to the coffin with small wooden nails was removed. This is not the only case at Herjólfssnes of a coffin having been used more than once, and a similar fact has also been brought out by investi-

gations of European graves from the Middle Ages.

Grave-goods are of rare occurrence in these burials. According to Christian ideas all that the dead needed was a cross, which was generally laid upon



the chest of the body, sometimes, when there was a coffin, upon the lid of the latter. About sixty more or less complete specimens of such crosses are brought home from Herjólfssnes, including those found on earlier occasions. They are all made of wood, some of them carved in rather an ornate manner, and others of an almost pathetic simplicity, merely consisting of a cleft wooden chip, into which another chip has been inserted. As to the ornamented crosses, special mention should be made of a frequently occurring type with semi-circular incisions at the intersections. It is the so-called "Celtic"

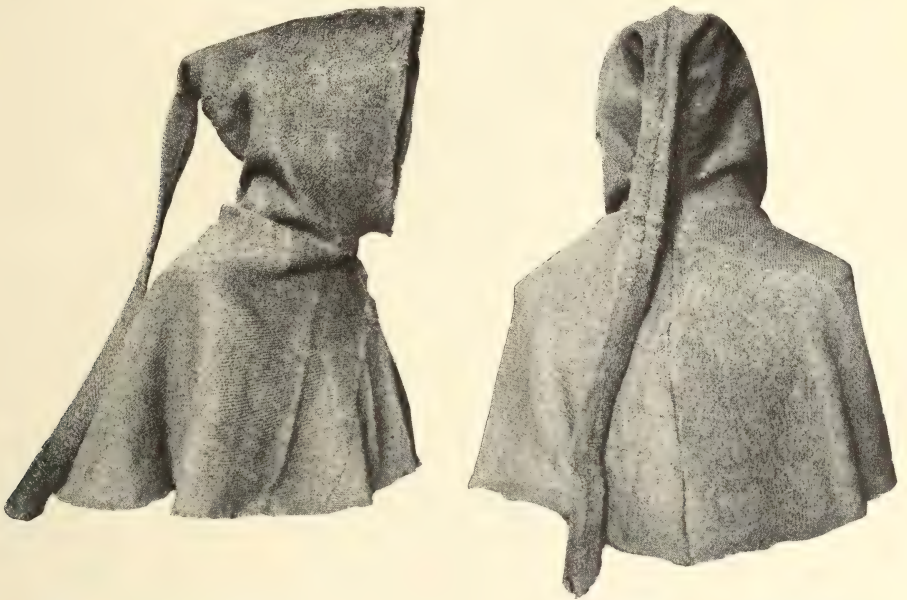


Fig. 5. Hood found at Herjólfssnes. 14th century. Side and back view. (P. Nörlund).

type, and its occurrence in Greenland testifies to a cultural connection with the British Isles, where this form is particularly well known from stone crosses and tomb stones in Scotland and Ireland and the interjacent islands.

Of particular interest are the wooden crosses bearing runic inscriptions carved or traced with a needle. In "Med. o. G." LXVII these inscriptions have been interpreted by Professor Finnur Jónsson, who also mentions them in a preceding chapter of the present work. They mostly consist of religious prayers and give the names of a few of the owners; the language is most frequently Icelandic, sometimes with the admixture of Latin words. One of the crosses, of the finest workmanship, bears cabalistic formulas, as usual strongly abbreviated, so as to put great obstacles in the way of interpretation.

The chief archaeological importance of the Herjólfssnes finds, however, attaches to the articles of clothing already mentioned and found wrapped round the bodies for shrouds, which fix an approximate date to the find, at

the same time furnishing valuable evidence of the level attained by Norse culture in Greenland.

These costumes, which are all made of wool, for the greater part of a four-shaft twill, mainly belong to a period when the clothing of men and women was the same, *viz.* long slip-over garments, almost reaching to the feet and close fitting about the waist, while increasing in width towards the lower edge.

The male garment was, generally, a little shorter than that worn by the women, but apart from that it is difficult to distinguish the one from the other. As to the costumes found at Herjólfssnes there are several, especially among the less well preserved specimens, where it is impossible to say anything decisive about the sex of the wearer. But the very type of garment, with the slender waist and the full width downwards—the greatest width found is 4.25 m—is so characteristic that it is comparatively easy to fix the exact date. It belongs to the 14th century, in the European countries which led the fashion to the beginning of the century, in Scandinavia somewhere about the middle and in Greenland presumably to the latter part.

Besides these long gowns, the pronounced waist line of which was attained by the use of inserted gores, shorter male garments of a simpler cut and a more indefinable age are also found. For that matter they might very well belong to the 13th century, if it were not that the conditions of the find in several cases were against it.

On the other hand, a few articles of clothing were found of an undoubtedly later types, which cannot be supposed to have reached Greenland until in the 15th century. First, a high-necked male costume which is not of the old slip-over type, but, like the modern male costume, open in front and arranged so as to be closed with closely placed buttons. Secondly, a female gown with the body cut into a deep V at the neck and pleated in close vertical pleats, a characteristic European fashion from the early half and more particularly the middle of the 15th century.

Besides the body clothing the head dresses found are of particular interest. Most characteristic is a closed hood with a cape of varying length and a ribbon-like "tail" or "liripipe" hanging down the back. This article of clothing which, in the form in which it has been found, is a European fashion from the latter half of the 14th century, has been widely used in Greenland, as it was extremely well suited for outdoor wear in the cold and windy weather. It is also natural that it should so frequently have been used for a shroud. Particularly when bodies, for instance, because the earth was frozen had to lie, perhaps for several months, before interment, it was expedient that the hood could be pulled over the face and cover it entirely. One of the handsomest and best preserved hoods was found wrapped about the legs of a dead body.

Of other head dresses were found some small cylindrical caps, worn

by children as well as adults, and a tall conical cap, which in Europe is characteristic of the period after the middle of the 15th century. It is the most recent of all the articles found, being testimony that the Norsemen in Greenland had connection with Europe as late as the latter half of the 15th century.

Also several specimens of hose were found; long-legged hose covering the entire leg, and shorter ones reaching only to the knees, further also the so-called stunt hose without a foot, but with a strap under the instep. The hose is of woven material; no precise date can be fixed for it.

There are three points connected with the articles of clothing from the Herjólfssnes finds which should be particularly emphasized. In the first place, the costumes are purely European in cut and character, and have hardly been adapted to local conditions. They are the same fashions known from European representations, with which they can be identified in every point, and thus represent a pure and unmixed European culture.

Secondly the careful, almost dainty workmanship of these costumes is a matter for surprise. It must be borne in mind that they have been well used by their owners, many of them being worn through and patched; further, they are naturally not unimpaired by having lain so long in the earth, and further detriment has been caused by the exhumation and the necessary cleaning of the material. But apart from these drawbacks and considering the costumes as they originally were, they show a marked sense for "solid workmanship", and in spite of the coarse homespun material from which they are most frequently made, these imitations of European fashions are in no wise uncouth or rustic, but quite worthy of their models, although for very obvious reasons they are lacking the refinements of the latter.

There is, however, a third peculiarity about these costumes, *viz.* that the fashions copied belong to a higher social stratum than we would expect to find in a country so lacking in resources as Greenland. In Europe the common people, judging by pictures, did not wear hoods with long tails nor closely fitting gowns; such fashions are only to be found among the well-to-do middle classes. This is well worth noting, and at the same time it should be remembered that the models from which the dresses were copied had been brought to Greenland at a time (about 1350—1400) when people have been apt to imagine the Norsemen in Greenland as living in the most abject poverty and misery. Naturally one should not on the strength of this go to the opposite extreme, and picture conditions too rosy; conditions in Greenland have always been inclement and hard, and perhaps it is not improbable that as long as the trade connection with Europe existed, Herjólfssnes, on account of its harbour, was the home of the most prosperous of the Greenland settlers. We will learn in the following how they fared after the final isolation from the mother country.



It has already been emphasized what a peculiar and unique phenomenon it is that costumes from the Middle Ages should have been able to lie in the ground for such a long time without decaying utterly. Thus, the characteristic hood with the long tail at the back was, for a hundred years or more, one of the most favoured European fashions, and yet no specimen of it has been preserved anywhere else: consequently, it may be concluded that the fact of its having been preserved in Greenland is due to some unusual cause, and *a priori* it seems likely to presume that this special cause is the cold. It is undoubtedly the constant low temperature which has preserved the costumes. The excavations took place in the months of July and August, the warmest season, and yet the layers from which the costumes were taken were still frozen.

There is a possibility that the preservation of the costumes is due to the fact that the climate in South Greenland has become colder, which hypothesis was set forth by the present author in his large report on the Herjólfssnes finds, in *Med. o. G.* vol. LXVII. The question is, however, a much debated one (cf. e. g. Fridtjof Nansen, in *Avhandl. utg. av Det Norske Vetenskaps Akad.*, Oslo I, 1925—1926).

At the present time the problem is being studied by the geologist and botanist Knud Jessen Ph. D. who in 1926 carried on researches at the old Norse farms.

It has already been suggested that, as contrasted with the coffins, the costumes and the small wooden crosses which were given into the hands of the dead, the bodies themselves were utterly decomposed, so that there was hardly any trace of them; the state of preservation of the skeletal parts was generally poorer than in the case of many medieval graves in Europe. However, after the return of the expedition in the winter of 1921—1922 the sparse material of skeletal remains was given to Fr. C. C. Hansen, Professor of Anatomy, who by means of detailed and extremely ingenious analyses has succeeded in obtaining very important results. It is a gloomy and tragical picture which is shown us on the strength of these researches, the picture of a race, greatly deteriorated and degenerated through inter-marriage and under-nourishment, a community of almost dwarf-like and thin people crushed down by all the bodily infirmities resulting from lack of proper nourishment and also, as it seems from the few preserved skulls, possessed of a very small brain capacity. The death rate among infants was very high, as appears from the comparatively high percentage of children's interments found. But the adults also, on an average, seem to have died at an early age, and only a minority attained an age over thirty years.

Professor Hansen's examination of the teeth is of particular importance. It proves that they were good and sound, and no traces of caries were found, but, on the other hand, even in the case of quite young people,

they bear the marks of great wear and tear. This destruction of the teeth must, according to the inferences drawn by Professor Hansen, be due to bad food, or rather the poorer kinds of vegetable matter, which in the course of preparation have been greatly admixed with sand and gravel or the like. Everything thus seems to point to the fact that the strength of this population was undermined by lack of proper nourishment, and that at last it actually succumbed to starvation.

Finally, it should be mentioned that the skulls found do not show the least trace of any kind of mixture with the Eskimo race, and this agrees very well with the archæological investigations, which also show a pure and unmixed Norse-European culture. Even after the breaking off of all communication with Europe, the inhabitants of Herjólfssnes, in their last stage of deep degradation, preserved the pride of Europeans towards primitive peoples.







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